Lettsomian Lectures
ON THE
SURGERY OF THE ARTERIES.

(ILLUSTRATED BY TWENTY-SEVEN OPERATIONS OF LIGATURE BY THE AUTHOR, AND OTHER CASES OF DISEASE AND INJURY.)

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LECTURE II.—PART III.
THE LIGATURE—(CONTINUED).

I WILL now add to the preceding a little more of the experience of others.

Mr. Lister informed me (Jan. 2nd, 1875) that he has tied six arteries antiseptically: one with silk, and five with catgut, cut short (one external iliac, one common carotid, four femoral). He says: "One of these latter is remarkable from the fact that the aneurism reached to the upper part of the thigh, so that I was induced to apply the ligature at a situation which I should not have thought expedient without antiseptic means—namely, about the most frequent place of origin of the profunda." In each instance he had every reason to believe that the ligature remained upon the artery, and, consequently, its continuity was not destroyed; and this is the grand desideratum, and that which Mr. Lister claims for his catgut. In contrast to the above it is only right to record instances in which the catgut ligature has been attended by peculiar and unsatisfactory results.

A male, thirty-eight years of age, was admitted, under the care of Mr. E. Watson,* with popliteal aneurism, on Sept. 7th, 1869. Three years previously he had been cured of an aneurism in the same locality by ligature of the femoral in the usual place. On September 10th an antiseptic catgut ligature was applied in Hunter's canal, but without arresting pulsation beyond a few seconds. On Sept. 15th a similar operation was performed upon the external iliac artery. A discharge took place at the wounds, but the ligatures did not come away. Death, after amputation, on the 15th of October.—Post-mortem examination: Operation wounds were granulating superficially. The external iliac artery, when "slit up, had its lining smooth and unbroken, and there was no evidence left of diminution of the calibre of the vessel; neither was there any trace of the catgut. And the impression on my mind is that the ligature did not confine the vessel for more than a few hours—a sufficient length of time, however, to produce partial coagulation of the blood in the aneurismal sac; for the pulsation never returned. Another curious circumstance is that the vessel at this place was quite empty. There was no clot, or even a shred of lymph, adherent to this part of the vessel. ..... Tracing the artery further down, its calibre was found much diminished at the position of the first ligature, which was a silk one, and its coats, as well as the tissues in the neighbourhood, were considerably thickened. At the site of the ligature, which was placed on the artery in Hunter's canal, it should be mentioned that the coats of the vessel were very deeply reddened, and it was filled with an adherent clot; but, nevertheless, it calibre was not diminished. There was no trace of this ligature—a catgut one—to be discovered."

Second instance. Mr. Spence† writes:—"On Wednesday, May 12th, having occasion to tie the right common carotid artery, I determined to use the catgut ligature. I exposed the artery very carefully, and passed the ligature with the least possible disturbance of its connexions. The patient was very comfortable during the afternoon, with the exception of sickness from the chloroform when he took liquids. On Thursday morning at half-past ten I received a message to say that he had suddenly become comatose and paralysed on the left side. ..... The patient died on the morning of the 15th. On examining the carotid artery, I was not a little surprised to find that it did not seem in the slightest degree constricted at the point of deligation; in fact, at first, I saw nothing that I could recognise as the ligature. On careful examination, however, I found that what at first seemed some lymph or tissue was the catgut softened. ..... On looking at the ligature with a pocket lens, the texture of the catgut was distinctly seen, but it was so gelatinous and pulpy that it seemed as if it were cast in gelatine; and a portion removed for microscopic examination, when placed between two slips of glass, spread out like fluid. ..... An embolic clot was found plugging the middle cerebral artery."

In a private letter just received from Mr. Spence (January 8th, 1875), he says:—"I obtained the ligature from Mr. Syme's department, where it was in use. I tied it very tightly, and had the first turn of the knot fixed by the handle of an instrument while I formed the second, completing the reef knot, and as I was to cut the ends short, I tied a *third* knot. The ligature had softened (not slipped) and lost its constricting power. The internal coats of the artery are cut through as with the silk ligature, but when the catgut softened, the force of the circulation, I presume, distended the vessel and forced the fragments of the recent clot into the circulation. I use carbolised catgut to tie arteries in amputations, removal of tumours, &c., but I certainly would *not* use it to tie a large continuous trunk for aneurism again. Its very advantages for ordinary use arise from its softening and dissolving, and so disappearing insensibly, without ulcerating through the cellular fibrous coat of the vessel. I have known hæmorrhage occur after amputation, from the ligature softening and losing its constrictive power. When I use it in large arteries, as in thigh amputations, I apply two ligatures—one close to the soft parts, another near the open mouth of the vessel. I now, for large arteries in amputation, use catgut for the upper ligature, but dentist's silk for the lower, so that if the catgut should soften before the hæmostatic changes are complete, the good old silk holds. But as the catgut does not ulcerate through the external coat of the vessel, I think it a security, and it does not seem to produce irritation."

Again, on May 25th, 1871, Mr. Holden* ligatured the femoral artery in Scarpa's triangle antiseptically with catgut. Venous bleeding occurred at the time, and pulsation in the aneurism ceased.—26th: Slight pulsation in aneurism.—27th: Considerable pulsation.—29th: Still marked pulsation.—30th: Pulsation somewhat diminished in force.—31st: Pulsation is more diffused than before; discharge of fetid green pus from the wound.—June 2nd, 2.30 A.M.: The patient is lying in a pool of blood, and died to-day.—Post-mortem examination: "At the point where the vessel was tied there was a jagged perforation of the arterial coats through which the hæmorrhage had taken place. Not a trace of the ligature could be found after most careful search. On slitting up the canal of the artery, the inner and middle coats were seen to be fairly divided. There was no trace of any clot, the vessel being pervious throughout."

An interesting experiment concerning the tenacity of catgut under two conditions has been instituted by Mr. Callender.†

Now, these instances of failure naturally tend to encourage distrust of the catgut ligature, and more especially when the accidents are peculiar and such as are not met with in the use of silk. Possibly these accidents might be explained to the satisfaction of the majority of operators, but any one of these mishaps occurring to an individual would make him at least disinclined to a repetition of the catgut, and such, in fact, was the effect produced on the minds of Mr. Ebenezer Watson and Mr. Spence, who, in consequence of their experience above quoted, have reverted to the silk ligature. These recorded accidents teach us one very important fact—that however possible it may be to obliterate an artery in the lower animals, as was done by Jones, and which was suggested by him as possibly applicable to the human subject, by the *momentary* ligature, disastrous failure must be expected, and this method must

* Glasgow Medical Journal, May, 1870, p. 340.
† THE LANCET, June 5th, 1869.

* St. Bartholomew's Hospital Reports, vol. viii., p. 187.
† Pathological Society's Transactions, vol. xxv., p. 103.

not be repeated. One cannot, therefore, agree with Mr. Lister, with our present experience of the catgut ligature, that it is probably a "matter of indifference" whether or not the wall of the vessel be left intact in tying it. So long as the ligature of an artery cannot be guaranteed against the minimum degree of suppuration, ulceration, and sloughing, and while the catgut may melt away before repair has taken place, so long will its employment be attended by anxiety. For the surgeon distrustful of catgut there is yet one resource well worthy of further trial. I allude to the antiseptic silk ligature, cut short. Mr. Lister's first application of the antiseptic ligature was that of silk, cut short, to the external iliac artery of a female, fifty-one years of age. This patient died between ten and eleven months subsequently, and he had an opportunity of examining the parts concerned in his operation. He found a remnant of the ligature only, and something very like pus near it.* This condition of the ligature after a lapse of ten months induced Mr. Lister to resort to catgut as probably being less irritating than silk.

My own case was operated upon in a similar manner in consequence of the publication of the history of the above. My patient is still alive, six years having elapsed; and, indeed, he is here present to-night. We can speculate to no profit as to the fate of his ligature. Referring to my cases of antiseptic ligature, only one, in which the wound closed by primary union over the catgut, can be fairly contrasted with this. All the others differed in some particular, and disadvantageously.

Both gut and silk, cut short, were used by Cooper, Guthrie, Lawrence, and others; but the result was so unsatisfactory that they were discarded for the usual method. But it is quite possible that the silk ligature, cut short and used antiseptically, may in the majority of instances remain quiescent, and by maintaining its hold upon the artery for a sufficient length of time to admit of repair, as we know it will do, will supersede even catgut. For my own part, I am disposed to repeat the use of antiseptic catgut until further experience declare against it, using a large size for an artery in continuity. In a private letter to me on this subject, Mr. Lister now advises the use of a drainage-tube for the first few days after an operation, to prevent the accumulation of serous oozing, withdrawing the tube by degrees. Again, it will be observed that in one case (No. 1–2), in which I tied the subclavian and common carotid simultaneously, I used a silk ligature in the usual way, but antiseptically. This plan may commend itself to some, and more especially as the ligature, projecting at the wound, will serve the purpose of a drainage-tube; and there is probably no reason why antiseptic catgut should not be used in a similar manner.

In proposing to resort to the antiseptic method, it is only fair to the originator of it, and to avoid bringing it undeservedly into discredit, and for the welfare of the patient, to carry it out in all its details—a somewhat troublesome undertaking, but which will probably repay the operator by its results. This close attention to details is the more necessary because, as I have said, Astley Cooper, Porta, and others tried catgut (not antiseptically), but reverted to silk.

I wish it to be particularly observed that my remarks and cases had especial reference to the use of this ligature in the *continuity* of arteries. It has been very freely used at the extremity of a divided artery, and, as is firmly believed, with advantage over silk; but it must not be inferred from this fact that the conditions of the ligature correspond. In a stump, the artery, retracting and contracting, is soon put into a state of rest, and blood only in proportion to the wants of the now diminished limb passes into it; and thus an opportunity for resisting hæmorrhage and repairing injury is quickly afforded. On the other hand, the vessel ligatured in continuity remains in a state of tension for a longer or shorter period, and the above-mentioned conditions are consequently postponed. I would suggest that the catgut be employed *double*, and the artery, being at once severed between the two ligatures, will be placed in repose immediately.

After mature consideration, I arrive at the following conclusion:—*That the fate or behaviour of a given antiseptic catgut ligature, applied to the continuity of an artery, cannot be foretold.*

* THE LANCET, April 3rd, 1869.

Croonian Lectures
ON
ADDISON'S DISEASE.

Delivered before the Royal College of Physicians,

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LECTURE III.—PART II.

NEARLY ten years ago, in a paper read before the Pathological Society, I observed that the production of the symptoms of Addison's disease by means of the implication of the nerves was, after all, a secondary question to that of the origin of the supra-renal disease itself, of which the nerve lesions were the consequence, not the cause. This is still my opinion; but, unfortunately, it is even more difficult to throw light upon the question of the etiology of the disease than upon that of its pathological processes; and this difficulty is owing, not only to the peculiar obscurity of the subject, but to the absence, in a majority of cases, of many of the data required in order to justify any certain conclusions being drawn from them.

There are, at the same time, some pathological conditions recorded in association with Addison's disease, in so considerable a number of cases, as to leave no doubt on my mind that they are not accidental complications, but have a real, and more or less causal, connexion with the disease; and these conditions I shall now proceed to consider.

In describing the characters of the lesion in the supra-renal capsules, I have purposely avoided the use of the term "tubercular," lest I should convey an erroneous impression; but the product of the chronic inflammatory process has, undoubtedly, analogies with tubercle, and it has been termed tuberculous, strumous, and scrofulous, more often than inflammatory. It may, indeed, be a question whether the distinction between inflammatory and tubercular deposits can be so clearly drawn as was formerly thought; for even the giant cells, relied on by Schüppel as decisive of the presence of tubercle, are now stated by Dr. Green, in his recent Manual of Pathology, to be merely characteristic of chronic inflammatory processes in lymphatic structures. Be this as it may, it is impossible to resist the evidence of clinical facts as to the existence of some affinity between Addison's disease and the tubercular diathesis. By far the larger proportion of the diseases of other organs, found in association with Addison's disease of the supra-renal capsules, are diseases of tubercular or strumous character. In the typical cases, it is true, these complications are either altogether absent, or are indicated only by small tubercular concretions in the lungs, some of which are described as cheesy, some as calcareous, others as peri-bronchitic nodules, and others again simply as indurations in the apices of the lungs. But a very considerable proportion of the other cases are complicated with more or less active tubercular disease; and in a certain small number of cases the genuine lesion in the capsules has been found coexisting with advanced phthisis or general tuberculosis. This may be explained in two ways. Even if the general tubercular disease and the particular lesion in the supra-renal capsules never stand to each other in the relation of cause and effect, it can be no matter of surprise, seeing how much a "vulnerable" constitution, as Virchow calls it, predisposes to the development of low chronic inflammatory processes, that these two diseases should not unfrequently be found in the same patient. There have been, however, a very small number of cases in which it does appear to me as if the lesion in the capsules, characteristic of Addison's disease, had arisen as part of a general chronic tubercular process going on at the same time in several other organs. It will be remembered that in these cases, which were discussed in my last lecture, the characteristic symptoms and bronzing of skin were altogether undeveloped. Although it is a part of the subject on which I desire to speak with great diffidence, seeing that it can only be determined by careful post-mortem examina-

tion of future cases of the same character, I may say that it seems to me by no means improbable that, in these cases, secondary deposits of tubercle may have taken place in the capsules, to the extent of entirely destroying their structure, without having produced the inflammatory nerve-lesions which I regard as essential factors in the development of Addison's disease.

It is much more certain that Addison's disease is frequently due to the extension of inflammation to the supra-renal capsules from diseased or injured adjacent parts. I have records of eighteen cases in which psoas abscesses, connected with caries of the lower vertebræ, and other abscesses in the immediate vicinity of the capsules, have been followed or accompanied by Addison's disease. In several other cases, in which the spine and neighbouring parts were not examined after death, distinct tenderness on pressure was observed over two or more of the lower dorsal and upper lumbar vertebræ; so that I believe the number I have stated by no means represent all the cases in which this form of disease has given rise to the inflammatory lesion in the supra-renal capsules.

There is clear evidence, in most of these cases, that the abscesses had existed for considerable periods of time previous to the appearance of Addison's disease, and in some cases they have even become entirely quiescent for years before the development of the symptoms. A man aged twenty-four, who died in St. Bartholomew's Hospital under the care of Sir George Burrows, had suffered in childhood from spinal disease, and two years before death from spinal abscess, which healed after a few months. His last illness was of eight months' duration, and after death the bodies of the fifth and sixth dorsal vertebræ were found to be destroyed, but there was no active disease. Both capsules contained purulent fluid, and yellowish pea-sized bodies, resembling concrete tubercular matter. In a case published by Dr. Cotton, of Lynn, the patient, a member of our own profession, had suffered in the year 1847 from an abscess in the right lumbar region, which produced very serious effects upon his health; but, contrary to expectation, he recovered and remained well until 1854. His complexion then underwent a marked change, and, somewhat later, the constitutional symptoms of Addison's disease supervened. After several alternations of remission and exacerbation, the patient died in April, 1857; and, at the autopsy, a fibrous-looking obliterated sinus was found, proceeding from the cicatrix of the old abscess in the right loin to the site of the structures in which the diseased capsules were firmly embedded. The disease in the right capsule appeared older than in the left.

This seems to me a point of so much importance, in its bearings on the etiology of Addison's disease, that I will quote two other cases exhibiting similar conditions. In the case of a deformed woman, aged twenty-six, who was under the care of Dr. McDonough, of Clapham, and whose case is recorded by Dr. Wilks, the lower dorsal and one or two of the upper lumbar vertebræ were found to be almost destroyed, and surrounding these, adjacent to the supra-renal capsules on either side, was found a quantity of putty-like and cretaceous matter, the remains of an old abscess. The capsules presented the characteristic appearances of Addison's disease, in a not very advanced stage. Another case, in which an inflammatory process, not connected with disease of the spine, had apparently, by reason of its close proximity to the capsules, been the exciting cause of Addison's disease, is that of a patient of Niemeyer's, a man aged thirty-seven, whose case was published during his lifetime by Averbeck, and after whose death the results of the autopsy were reported by Schüppel. The case was diagnosed as one of Addison's disease three or four years before death, and seems to have run a slow and sluggish course, complicated by successive abscesses and fistulæ in various parts of the body. The symptoms and discolouration were both characteristic, and the patient died in a sudden paroxysm of nerve-paralysis. The capsules were found in the usual conditions, the right one still showing a trace of normal structure, and both being embedded in much firm tissue. The left capsule and kidney were blended into one mass with the neighbouring portion of the descending colon, by means of firm tissue traversed by strong fibrous threads. The colon was, at this part, the seat of an extensive cicatrix of an old ulcer which had involved the whole tube, and was much contracted by the thickening of its walls; it was adherent to the pancreas by the same mass of firm tissue which bound it to the left supra-renal capsule.

In some of these eighteen cases the disease which seems to have been the exciting cause of the inflammatory process in the supra-renal capsules has evidently been due to constitutional tendencies; but in several of them there is a distinct history of injury which has obviously produced it, and in apparently healthy subjects. The most striking case of this kind which has come under my own observation is that of a coal-porter aged thirty-three, who was admitted into the Middlesex Hospital in the year 1866, under Dr. Stewart's care. His health had been robust until about three years before his death, when he severely strained his back in pushing a loaded coal-truck, and felt a sensation as of something giving way. From that time he felt more or less pain in the loins, but the first symptoms of Addison's disease supervened only ten months before his death, or two years after the accident. The case, like most of those belonging to the class I am discussing, was quite typical as regards the constitutional symptoms and bronzing of skin. At the post-mortem examination the supra-renal capsules were both found embedded in thick fibrous tissue and adherent to surrounding parts; the right one much enlarged and nodulated, consisting of semi-transparent tissue, yellow cheesy masses, and small calcareous patches; the left capsule smaller, and containing more calcareous matter. Adjacent to the capsules, in front of the lower dorsal and upper lumbar vertebræ, was a largish abscess, bounded by firm fibrous investments. Lastly, on examination of the spine, the intervertebral substance between the lowest dorsal and first lumbar vertebræ was found to be separated from the upper surface of the last-named vertebra, on the left side, for two-thirds of its depth, but the separation did not extend to the spinal canal. The upper surface of the lumbar vertebra was bare and rough. The clinical history and pathological conditions in this case scarcely leave room for doubt that the separation of the intervertebral substance took place at the moment of the strain three years before death, and that this injury gave rise, primarily, to the abscess in front of the injured parts, and, secondarily, by extension of inflammation from the abscess, to the disease in the supra-renal capsules.

Another remarkable case of the same character was published by Dr. Grey Glover in the *Edinburgh Medical Journal* for 1859. The patient, a furnace-man at some chemical works, had hurt his back by a fall. Three years later he became of a yellow colour, and was supposed to be jaundiced. Notwithstanding medical treatment, this discolouration never left him, and it ultimately deepened into the typical bronzing of Addison's disease. The peculiar constitutional symptoms only began to develop three years after the first appearance of the discolouration of skin, and the patient died after two years' illness. The capsules were entirely destroyed, consisting of semi-translucent deposit, with some opaque white material and cretaceous masses; and in this case also there was psoas abscess with caries of the two lower dorsal and two upper lumbar vertebræ. Dr. Wilks, to whom the capsules were submitted for examination, pronounced the case to be a capital example of the disease; and, in referring to it, stated that the fact of caries of the spine being the only disease which had in two or three instances been found preceding Addison's disease, strongly suggested the opinion that the capsules might have been secondarily affected by it.

In ten or twelve other cases, abscesses, frequently connected with disease of bones, or otherwise apparently of scrofulous character, have been found in situations more or less remote from the diseased supra-renal capsules. In several of these, as in many of the cases complicated with tubercle in the lungs, the only connexion between the two diseases has probably been the constitutional vice which predisposed to the development of both; but in other cases, in which the local seats of inflammation were not far removed from the supra-renal capsules, the disease probably spread, as in Dr. Cotton's case, by continuity of tissue, although the connexion was overlooked at the post-mortem examination. In a case of my own, that of a man aged twenty-four, who died in the Middlesex Hospital in the year 1864, there had been abscess in the left hypochondrium about nine months previously. Soon after it healed he was attacked with severe pain in the left hip, which never left him. Typical symptoms and discolouration of

skin supervened, and he died in a few months of Addison's disease. The capsules exhibited the usual characteristic changes; and a small abscess was found, situated underneath the pelvic fascia, containing about half an ounce of pus, and directly communicating with carious bone at the left sacro-iliac synchondrosis. I have since suspected, from analogy with other cases, that I overlooked a connexion between this abscess and the tissues adjacent to the supra-renal capsules; at least it is certain that, not fully appreciating at that time the important bearings of such a connexion, I made no sufficient search for it.

I must now invite your attention to a class of cases in which there is no pathological evidence of the existence of any local lesion from which there could have been extension of inflammation to the supra-renal capsules, but in which, nevertheless, the clinical history of each case very decisively points to some severe strain, or blow, or physical shock, usually in the back, as the starting-point of the illness.

Unfortunately, the previous history is wanting in so large a proportion of cases that I can only quote seven unequivocal cases of this class. A woman aged thirty-one, who died under my care in 1858, when I was physician to the Western General Dispensary, always assured me that she had never recovered from a strain in the back, received in turning a mangle some years before her last illness. A female servant aged thirty, who died in the Middlesex Hospital under the care of Dr. Burdon-Sanderson, was laid up for a week with pain in her back from a fall down stairs, and began to fail in health from that time. In like manner a druggist's assistant, a lad of sixteen, fell through a trap-door, and, although Dr. Bristowe, whose patient he was, verified the absence of any disease of the bones of the spine or pelvis, the lad's illness undoubtedly dated from that fall, which he survived sixteen months. Lastly (for it would be tedious to enumerate all these cases), the German factory manager whose case is related by Dr. Ploss dated his illness from supposed rheumatic pains caused by a fall over a bank two years before his death. These seven cases were all typical, in the sense of there being no coexisting disease of any importance; but in almost all of them some tubercles are reported in the apices of the lungs, giving evidence of the existence of the tubercular diathesis, with which Addison's disease appears to have so strong an affinity, and which may have predisposed these persons to its development from slighter and more temporary causes than would have given rise to it in persons of different constitution.

In four or five cases the patients have referred their illness to physical over-exertion, in about the same number to nervous shocks, grief, or heavy anxiety, and in two or three cases to attacks of intermittent fever. The evidence in such cases is of course more or less questionable, and, due regard being had both to the inadequacy of the supposed causes and to the occasional latent course of the disease, until its symptoms are developed under some external depressing influence, it may fairly be conjectured that, in most of these cases, the lesion in the supra-renal capsules existed antecedently to the supposed cause of the illness, which was only the immediate exciting cause of the manifestation of the symptoms. It is well not to overlook any aspect of so obscure a subject, and therefore, without attaching undue importance to the supposed facts in the history of these cases, I think it as well to keep them in view.

There still remain, however, a large majority of the whole number of cases, in which neither the pathological conditions nor the clinical history afford any clue to the origin of the disease. In too many cases, indeed, reports of these are sadly deficient, if not altogether wanting, but in many others, though apparently fully recorded, they show no trace of any antecedent cause. Good health, until the apparently causeless beginning of the fatal illness, is perhaps the most frequent history, and, in typical cases, the usual report is that all other organs were healthy; the exceptions to this rule being, as I have said, the frequent presence of small inactive tubercular deposits in the lungs.

In this absence of all internal conditions, and of all direct evidence of external injuries, which might serve to refer the origin of Addison's disease, in these cases, to any of the causes which have been apparently its starting-point in many of the cases with which I have dealt, we must fall back upon the indirect information to be derived from the very obvious influence of sex, age, and occupation on the development of Addison's disease.

Taking the 183 cases, which I classed as unequivocal examples of the disease, I find, as regards sex, that in 119 of these cases the patients were of the male sex, whilst in sixty-four they were females.

As regards age, my analysis shows that by far the larger number of the sufferers were persons in the most active period of adult life. Of the 119 males, ninety-two died between the ages of twenty and fifty, whilst nineteen boys died under the age of twenty, and eight men over the age of fifty. The two youngest boys were aged eleven and thirteen years respectively, and the oldest man was fifty-eight years of age. Again, of the sixty-four females, forty-seven died between the ages of twenty and fifty, ten girls under the age of twenty, and seven women over the age of fifty. The two youngest girls were also aged eleven and thirteen years, and all the seven older women were under sixty, except one, who is stated to have reached the age of sixty-nine.

If we now look to the rank in life and occupations of the sufferers, we perceive that more than nine-tenths of the whole number have belonged to those classes which are engaged, throughout the active period of life, in physically laborious work. Only eight or nine of the male patients have belonged to the classes of gentry, professional men, or merchants; whilst not more than six of the females have been in the position of ladies. With respect to the occupations of the men, and still more those of the women, the data are very deficient; but the fact that they were apparently almost all in the class of hospital patients speaks for itself as to the probability of their having led a life of hard labour, in some form or other. Of the eighty-five men belonging to the working classes whose occupations are recorded, fifty-one were employed as agricultural labourers, porters, stonemasons, bricklayers, coalminers, or in similar heavy work; a considerable number were costermongers, hawkers, journeymen tailors, shoemakers, saddlers, &c.; whilst a few were publicans, shopkeepers, clerks, or had other miscellaneous occupations. With respect to the large majority of the women of the working classes, we have no information beyond their age. Of the sixty-four women, ten are stated to have been servants, maids-of-all-work, laundry-maids, or cooks; six needlewomen, and three out-door labourers. Some, and in all probability very many, of the others were poor married women; and on no other class of their sex, perhaps, rests a heavier burden of labour.

Lastly, with respect to the great rarity of the disease in persons exempt from the risks and fatigues of bodily labour, I may quote my own experience. Although seven or eight cases have been referred to me in private practice as supposed cases of Addison's disease, only two of these have been true cases of the disease; and I have met with no others among persons of the middle or higher classes. I believe, too, that in this respect the experience of all other physicians will be found to coincide with mine.

From these data therefore, imperfect as they are, the following deductions may safely be drawn:—

The occurrence of Addison's disease takes place, almost exclusively, amongst persons employed in active manual labour.

The mortality caused by it is pretty equally distributed over the laborious period of life, and to that period it is almost entirely confined.

The disease is comparatively much more frequent among persons of the male sex, whose employments naturally comprise the heaviest kinds of labour.

And, lastly, a preponderating number of the cases which occur in persons of the male sex are found amongst those classes of labourers whose occupations are likely to expose them to injury from accident or over-exertion.

The facts thus brought out cannot fail to suggest obvious inferences as to the probability that in many of these cases more or less temporary causes of local inflammation may have existed, similar to those which appear to have been the starting-point of the disease in some of the cases to which I have referred. In persons of the hard-working classes, strains and falls which do not involve disabling consequences are soon forgotten, and therefore seldom reported; whilst the very necessity of striving against the weakness induced by a strain or a blow may tend to keep up an inflammatory process, which would naturally subside under favourable conditions of rest.

Without, therefore, venturing to speak dogmatically on

a subject which cannot be cleared up without much future investigation, I may yet say that I incline to believe the origin of Addison's disease in many of the unexplained cases to be due to traumatic causes, although probably favoured in its development by certain constitutional proclivities.

Very few words need be said here with respect to the diagnosis and prognosis of Addison's disease. The diagnosis is founded upon the constitutional symptoms, aided, in a large majority of cases, by the presence of more or less of the peculiar change of colour in the skin. It is not always unattended with difficulty, but to those who have any practical acquaintance with the disease it is not, I think, more doubtful than the diagnosis of many other chronic diseases. The prognosis is, of course, invariably grave as regards the ultimate result, though it is impossible to say to what extent life may be prolonged under favourable circumstances. Rest and scrupulous avoidance of bodily and mental excitement, or any other causes of nervous exhaustion, form the essential parts of the therapeutic management of all such cases; whilst the diet and medical treatment must be carefully adapted to the inevitably varying phases of the disease.

It only remains for me to sum up, in conclusion, the objects I have had in view in the course of lectures which I have had the honour to deliver before you.

In the first, I believe, I delineated faithfully all the principal clinical symptoms of Addison's disease and the remarkable varieties in their course, together with the true characters of the pathological lesions in and around the supra-renal capsules, which have been found to coexist with them.

In the second lecture I endeavoured to show clearly, on the one hand, the concurrent testimony of facts in proof of the real connexion subsisting between these clinical symptoms and the one specific lesion in the supra-renal capsules, and, on the other hand, the baseless nature of the misconceptions which have prevented the general recognition of its reality.

In to-day's lecture I have trodden on more difficult ground. No one can feel more strongly than myself that the opinions I have been led to form, with respect to the obscure pathological and etiological processes in Addison's disease, rest as yet upon an inadequate basis. I can only express the hope that, however problematical their correctness may appear to many, the suggestions I have ventured to make regarding the probable mode of production of the symptoms, and the probable means of origin of the supra-renal disease itself, may lead to a thorough investigation, in future cases, of all the facts bearing upon these questions; and thus to the acquisition of knowledge which may justify positive conclusions, in place of the uncertain inferences which, on many points, are all I have been able to draw from my own necessarily limited personal experience and the insufficient materials at my command.

STAB THROUGH THE EAR; WOUND OF MIDDLE MENINGEAL ARTERY; TRAUMATIC ANEURISM; LIGATURE OF LEFT COMMON CAROTID ARTERY; DEATH.

BY SAMPSON GAMGEE, F.R.S.E.,
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WILLIAM LINES, police-constable in the Birmingham force, was admitted into the Queen's Hospital, under my care, on March 7th, faint and pulseless. Bright-red blood was flowing profusely from a clean incised wound through the tragus and along the anterior wall of the external auditory meatus and the tympanum of the left side. After clearing out the clots, a graduated compress was applied, and the patient put to bed with an ice-bag over the left side of the head. Slight hæmorrhage, recurring during the night, was stopped by the nurse pressing on the pad. The next morning reaction had fully set in, and the patient suffered very little pain. Pulse 84; temperature 100° F.

March 10th.—Temperature 99·4°; pulse 76. Ear plug changed; no hæmorrhage. Ice to be continued.

13th.—No more hæmorrhage since the first night. The patient is so much better that the magisterial depositions are taken at the bedside.

16th.—Pulse 76. Asked for chicken for dinner.

17th.—A swelling below the ear, which has gradually developed, pulsates, and is the seat of bruit. At 10.30 P.M. smart hæmorrhage from the ear, stopped by replugging. Pressure by the nurse on the plug was sufficient to check subsequent slight bleeding. The application of ice continued without intermission.

19th.—The pulsating swelling about the ear increasing, digital compression of the left common carotid resolved upon, and its application was undertaken and carried out by clinical students, Messrs. Butt, Cresswell, Dennis, Dumbleton, Fallows, Gascoigne, Godson, Hall, Johnston, Palmer, Percival, Rhodes, and Tomkinson. The pulsation and bruit very perceptibly lessened, with consolidation of the tumour, but as the improvement was not persistent, as digital pressure became unbearable, and, after slight bleedings, considerable hæmorrhage occurred, at 4 P.M. on the 23rd of March I ligatured the common carotid as the only means of prolonging life. After ligature and the emptying of the aneurism, the hæmorrhage definitely ceased, and the patient soon rallied to perfect consciousness, and asked for his wife and child. Four hours later he was delirious. Eight hours and a half after the operation the right side became paralysed, and death occurred at noon on March 24th.*

The post-mortem examination showed the catgut ligature firmly embracing the left common carotid just below the omo-hyoid; on opening the artery, the inner coat was cleanly divided, and a firm adherent clot plugged the proximal extremity; the distal side of the vessel was quite empty. The wound in the ear perforated the membrana tympani, and an irregular cavity, between and about the pterygoid muscles, was filled with semi-purulent decomposing clot. On removing the calvaria, the branches of the left middle meningeal vessels were quite empty, showing a marked contrast to their distended condition on the opposite side; the dura mater and brain healthy. The internal carotid in the skull and petrous bone was laid bare, and found free from injury. The external carotid and its branches having been previously dissected and found sound, the middle meningeal artery was traced from the internal maxillary through the foramen spinosum, and outwards along the base of the skull for about a quarter of an inch, where it was found to be torn in consequence of the splintering of the thin lamina of bone at the junction of the squamous and petrous portion of the temporal. From the under surface of this part of the skull, an irregular sloughing canal passed down to the false aneurismal sac between the pterygoid muscles, along which the blood had passed from the injured middle meningeal artery, being prevented from separating the dura mater by the close adhesion of that membrane in the base of the skull. All the other branches of the external carotid were healthy and free from injury.

Commentary.—A stab into the ear followed by profuse hæmorrhage would, under any circumstances, be attended with danger. Pressure, ice, and perfect rest, were the first means employed to arrest bleeding, and, for some days, with success. When the hæmorrhage recurred, and a pulsating tumour gradually developed in front and below the wounded ear, the question of further interference pressed for solution, and the attendant responsibility was increased by the reflection that, as the wound was stated to have been inflicted on the constable while he was in the discharge of duty, a charge of wilful murder was impending, and two lives might be involved in the issue. It was obviously impossible to say with precision what artery was wounded, and the position of the injury precluded resort to the practice of cutting down in search of the wounded vessel, and tying it *in situ*. The recurring hæmorrhage was slight in amount; pressure on the common carotid instantly checked it, and at the same time arrested the pulsation and bruit in the aneurism. Experience is steadily accumulating in favour of the treatment of aneurism by digital compression—a plan which in itself is singularly harmless. Ligature of the common carotid is attended with its own risk. These considerations decided me in giving

* This abstract is from full clinical notes taken by our house-surgeon, Mr. F. G. Hamilton, whose ability and prudence were very notable throughout the case. For the notes of the autopsy I am indebted to my friend and colleague Mr. William Thomas.

digital compression a thorough trial—a decision in which I was sustained by my colleagues in consultation. An appeal was no sooner made to our students for volunteers to practise digital compression than a number came forward, and it is difficult to do justice to the gentle, faithful, and skilful care with which these gentlemen, over a period of seventy-two hours, remained at their post. For a time their endeavours promised the best result: the swelling grew solid, the pulsation and blowing murmur very perceptibly decreased; but eventually bright scarlet blood flowed again, and to check it it was necessary to exercise increasing pressure, which the patient was less able to bear. Death from hæmorrhage now being imminent and certain, I resolved to tie the common carotid as the only means of prolonging life. Dr. Sawyer administered ether, and Mr. West and Mr. Wilders assisted me* while I cut down upon the common carotid, and secured it with a cat-gut ligature just below the omo-hyoid. The man's thick and very muscular neck added to the difficulty of the operation in this deep position; but I deemed it safest to cut through healthy tissues, well below the infiltration in and below the parotid region. For the immediate object for which it was performed—the arrest of hæmorrhage which threatened instant death—the operation was perfectly successful, although the supervention of hemiplegia and pulmonary congestion proved fatal in twenty hours.

Birmingham.

ON THE FORMATION OF STONE IN THE BLADDER AFTER INJURY TO THE SPINE.

BY HENRY A. LEDIARD, M.B.,
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CHRONIC CYSTITIS is very commonly found in the paraplegic, and in such cases the urine will possibly be turbid, with an alkaline reaction, together with the presence of muco-pus and crystals of triple phosphate; yet I believe those cases far from ordinarily met with where such a state ultimately leads to the formation of a calculus in the bladder. The same condition of the urine may exist from any cause which delays the exit from the body of water excreted healthily by the kidneys. Or, again, the presence of a calculus in a normal bladder may set up a chronic cystitis which eventually coats the stone secondarily with phosphatic material; and the same may be said with regard to foreign bodies in the bladder, which are treated in a similar manner, the last specimen of the kind I saw being an extensive phosphatic deposit upon a hair-pin, removed from the bladder of a young female. In spinal injuries followed by paraplegia, the cystitis set up has been attributed to loss of nutrient power of the tissues, the paralysed state of the bladder rendering this viscus more prone to inflammation. It is difficult to account for the fact that chronic cystitis may exist in some instances for a long while, and no concrement form at any time; whereas, in a few cases a stone may form at an early date, but I suspect it is due to this, that in the former class of cases the bladder is frequently emptied, and that the latter class of cases are associated with deficiency in expulsive power of the bladder.

In paralysis of the bladder, where the sphincter retains power and the detrusor is chiefly affected, the conditions most favourable to the formation of stone are presented: the urine is allowed to accumulate within the viscus, the pain of distension is not experienced perhaps, and it is only when over-distension ensues that the urine begins to dribble; the long residence within the bladder induces concentration of the urine, and aggravates the deposit thrown down. Were this paralysis of the detrusor more commonly met with together with chronic disease of the bladder, I believe that cases such as the one I record would be of more frequent occurrence.

I am enabled, through the courtesy of Mr. Holden, to give an account of the injury sustained by the patient and the consequences that ensued.

W. G——, aged thirty-nine, was admitted into St. Bartholomew's Hospital on Jan. 23rd, 1873, with an injury to the spine. He had been moving some waggons, when one of them struck the corner of a goods shed, a great portion of which fell, striking him across the back and loins. There was tenderness on pressure and ecchymosis over the lower dorsal and upper lumbar vertebræ. No fracture or dislocation could be detected. The urine was obliged to be drawn off. The motion of both legs was impaired, especially that of the left. He complained of numbness in both legs. Bowels acted involuntarily. Subsequently, on Feb. 2nd, the urine became thick and ammoniacal. On the 5th it contained blood. He had a rigor, and the pulse and temperature rose. Pus and crystals of triple phosphates appeared in the urine. On the 13th there was more movement in both legs. On March 18th he had passed for himself, as often as he had wanted it, a soft catheter, and the bladder had been occasionally washed out. He was able to sit up by the fire on March 27th. He could not pass urine, but motions were voided before he could ask for a utensil. On May 19th he left the hospital on crutches, and he told me that he relinquished these in three weeks in favour of a stick, which he used up to his admission into the Highgate Infirmary on Dec. 4th, 1874, when he made the following statement: that he had injured his spine two years since, that he had used a catheter daily for the last fifteen months, and that a swelling began to make its appearance between the legs ten days before admission.

Upon examination, there is an abnormal interval between the spinous processes of the last dorsal and first lumbar vertebræ, with considerable prominence of the latter; expression anxious, thirst present, and a large fluctuating tumour in the perineum, a mesial incision into which evacuated twelve ounces of grumous pus stinking horribly. The cavity of the abscess was then washed out, and lined with lint and carbolic oil; the scrotum suspended. In the evening the sheets were wet under him, but the bladder was distended. A No. 7 catheter passed carefully drew off ten ounces of offensive urine, and during the process a finger in the wound detected a very thin covering to the membranous portion of the urethra, but no rupture.

On December 6th he was free from pain, expression less anxious, urine ammoniacal, and a calculus detected in the bladder.

Dec. 7th.—There is incontinence of urine during coughing. Wound promising to heal well; allowed to use catheter himself.

Jan. 2nd, 1875.—Wound, which, when granulating, presented a natural dissection of the anterior perineal space, is now nearly closed. Urine clearer and less offensive, but still alkaline. To get up.

7th.—The ground still feels numb to the feet, and there is also a want of sensation about the buttocks; feet always cold; urine free from albumen, alkaline, muco-pus and crystals of triple phosphates present.

Feb. 1st.—Has been up daily since last report; can get about fairly well with a stick, but walks on the heels. At 3.30 P.M. lithotomy was performed laterally; the stone, a small friable one, with a soft nucleus, broke in extraction, and the remaining portions were removed with a scoop, and the bladder syringed out through the wound.

7th.—Bowels, confined since the operation, have to-day responded to an aperient without pain. Ordered dilute nitric and phosphoric acids, with tincture of muriate of iron; allowed solid food; has passed water through the penis on coughing.

12th.—A pint of water passed by natural channel; urine contains ropy mucus, with pus-cells and plenty of triple phosphate crystals. Ordered dilute nitric acid, tincture of henbane, and decoction of pareira brava.

16th.—Water all by the right way; is anxious to get up.

20th.—Is up and well; passes his water naturally with a fair stream, requiring to bear down a little. Urine is acid on emission; it dribbles at night sometimes. To pass water frequently, in order to keep the bladder as empty as possible.

March 4th.—Passes water in good stream; urine is clear, acid, and free from all deposit; his paralysed condition is unaltered, and the tendency to constipation is well met by half-drop doses of croton oil in a pill.

* My colleague, Mr. Furneaux Jordan, who had previously given me the full benefit of his opinion, was unavoidably absent at the moment of the operation.

The stone removed would have crushed well in a healthy bladder, but in a case such as the one recorded, where paralysis and liability to cystitis existed, I should prefer the cutting operation to the more tedious method, as likely to give the better result in a patient not otherwise unfitted for such procedure. Dr. Goodhart informs me that the calculus is phosphatic in great part.

Highgate Infirmary.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

ON THE RELATION OF PUERPERAL FEVER TO THE INFECTIVE DISEASES AND PYÆMIA.

ON Wednesday, the 7th inst., before a large gathering of members of the Society, Mr. SPENCER WELLS opened a discussion on the Relations of Puerperal Fever in the following words:—

MR. PRESIDENT AND GENTLEMEN,—In opening a discussion this evening on the relation of puerperal fever to the infective diseases (which are amongst the most numerous class of cases treated by the physician and general practitioner) and to the various forms of traumatic fever (which, under the head of pyæmia, fall more frequently under the care of the operating surgeon than of the obstetrician), I wish particularly to impress upon all who honour me by their attention, that my object is rather to elicit than to impart information—to call forth the stores of knowledge now latent in the Society, to ask for the results of your observation, rather than to attempt to add to the knowledge of the fellows by any contribution of my own. It has been the custom of the Society in whose room we meet to stimulate the fellows to enrich the Transactions by papers of original research and sterling value; to make this one of the chief objects of the Society, and, if not directly to discourage, certainly not to encourage, full or exhaustive discussions at the meetings. I have long felt, and publicly expressed my conviction, that this course might be amended with great advantage to all Medical Societies and to the advancement of medical science and practice; and I had some small share in the earliest of the preliminary meetings of this Society—I may say, even before the Society was constituted—in determining that in our Transactions there should be a permanent record, not only of the papers read before the Society, but of the discussions to which the papers gave rise. This custom has ever since been honoured in the observance, and the example is now being followed by other Societies. If I am not greatly mistaken, the discussion on pyæmia in the seventh volume of the Transactions of the Clinical Society will be referred to hereafter with more interest and profit than any of the papers in that or in any of the earlier volumes of that Society's Transactions; and the discussion on cancer in the twenty-fifth volume of the Transactions of the Pathological Society was most certainly as great an addition to the value of that volume as one could well imagine. Last night many of us heard the opening address of Dr. Bastian on a subject closely allied to some of the questions which I have to bring before you this evening; and the admirable speech of Dr. Sanderson in commencing the discussion is full of deep thought, and eminently characteristic of the tendencies of our age and our nation, to reject any theory which is not supported by facts, and to bring the highest developments of science to our help in the needs of daily life. Those discussions lead to the almost painful reflection: how greatly would the value of the earlier volumes of the Medico-Chirurgical Transactions have been increased if we had now, not only a copy of the papers read, but a report of the comments they called forth from Baillie and Halford, from Cline, Cooper, and Abernethy; from Travers, Brodie, and Lawrence; from Bright and Addison. The marble busts of these great men of the past now surround us; but the workers of the present and the future can find no record of what they have said here, and can only regret that, while their form and features are preserved by the sculptor, their thoughts have not been embalmed by the reporter and the printer.

> "Who of us can tell
> What he had been, had Cadmus never taught
> To man the magic that embalms the thought?"

I have reason to believe that the discussion this evening will be fully and accurately reported, and will be preserved in our Transactions. I must now ask you to pardon these few prefatory remarks, and also to forgive me if I venture to express the hope that, as the subject of puerperal fever is not of less interest than that of cancer, is closely allied with pyæmia, and with the relation of bacteria to contagious and infectious diseases, it will be debated with as much ability and as complete freedom from any other than purely scientific and truthful feeling as have characterised the discussions at the Clinical and the Pathological Societies. If you permit me to consider what I have so far said as introduction, and to commence the subject of puerperal fever now, I hope I shall not encroach upon your time beyond the fifteen minutes within which I have tried to condense what I wish to say. In order that some definite direction might be taken in this inquiry, attention has been already publicly requested to six leading questions. The first, second, and third are so closely allied that I will, if you please, read them together now. "1. Is there any form of continued fever, communicated by contagion or infection, and occurring in connexion with childbirth, which is distinctly caused by a special morbid poison, and as definite in its progress and the local lesions associated with it, as typhus, typhoid, scarlet fever, measles, or small-pox? 2. May all forms of puerperal fever be referred to attacks of some infective continued fever—as scarlet fever or measles—occurring in connexion with childbirth on the one hand; or, on the other, to some form of surgical fever, or to erysipelas, caused by or associated with changes in the uterus and neighbouring parts following the process of childbirth? 3. If all cases of contagious and infectious diseases which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?" In framing these questions, after searching for an accurate definition of the term "puerperal fever," or for some short description of this as distinguished from other forms of continued fever, I have taken as the most accurate and comprehensive the definition from the Nomenclature of Diseases drawn up by a committee appointed by the London College of Physicians (for which definition I believe the committee are indebted to Dr. Arthur Farre). It is this: "A continued fever, communicable by contagion, occurring in connexion with childbirth and often associated with extensive local lesions, especially of the uterine system." To this definition this very important note is added: "In returning cases of puerperal fever, the more important local lesions, such as peritonitis, effusions into serous and synovial cavities, phlebitis, and diffusive suppuration, should be specified." Here, then, we are led, on the authority of the most distinguished obstetric teacher of the day, supported by a joint committee appointed by the Royal College of Physicians of London, to the conclusion that in puerperal fever we have a contagious continued fever *often* associated with the important local lesions just enumerated—not *always*, but *often*. You may, then, according to this definition, have this contagious fever without these local lesions. The poison may be so potent, or the dose so large, that it may kill before there is time for the development of the local lesions; or the dose may be so small, or the poison so feeble, that it only produces some transient elevation of temperature, some greater rate in pulse and respiration, some increased action of skin, kidneys, or bowels, and the morbid material is eliminated before any local lesion is established. But I must ask you to say if, in your experience, you ever saw such a case which could not, on careful inquiry, be traced to exposure of the patient to some one or other of the contagious or infectious fevers—to scarlet fever or diphtheria, to measles or small-pox? I need not remind you how those diseases are intensified or modified by this puerperal condition; and I proceed to ask if, in any case where puerperal fever could not be proved to be really scarlet fever, diphtheria, measles, or small-pox,

occurring in connexion with childbirth, it was not a traumatic or surgical fever, erysipelas, pyæmia, or septicæmia, the local lesions associated with the fever assuming rather a primary than a secondary importance in the chain of sequence. Time does not permit me to enter on the very important practical question as to the sole dependence of erysipelas upon a specific morbid poison. Whether this peculiar inflammation of the skin and cellular tissue tending to spread indefinitely, and preceded or accompanied by fever, can arise from the spontaneous generation in the human body of a poison communicable by contagion, or whether a poison capable of producing erysipelas exists at all times in varying quantity somewhere, ready to increase and multiply under favourable conditions, or whether, as some believe, erysipelas may arise independently of any poisonous influence from without, we need not inquire now. The important fact for us now is that erysipelas often attacks the parts concerned in the process of childbirth, and that the fever which accompanies it, intensified by the puerperal condition, is a very fatal form of one of the diseases confounded together under the term puerperal fever. Set aside the infectious fevers and erysipelas occurring in connexion with childbirth, and then we come to the local lesions associated with puerperal fever, and we ask what relations the fever and the local lesions bear to each other. Bruises or tears of the congenital canal or perineum, inflammation and the production of pyrogenic liquids or solids which may contain both bacteria and some poisonous material or particles which have the power of impregnation; diphtheria, exudation on the mucous membrane of the uterus and vagina, especially on the place of the separated placenta, and plugging of the lymphatic vessels with granular masses or colonies of bacteria or spheroids; the rapid development and growth of plant life, and the disturbance of functions and alteration of structure which must follow;—does all this arise under perfect sanitary conditions, spontaneously or from mere chemical decomposition, or only when some poisonous agent is introduced from without—the seed of some plant sown in a fruitful soil? Again, supposing inflammation is set up in the uterus in its veins and lymphatics, that the albuminoid secretion known as the lochial discharge contains pus; that pus, or putrid material, or organic germs are found in the lymphatic vessels of the uterus and of the subperitoneal cellular tissue with diffuse peritonitis; that the blood in the uterine veins clots, softens, breaks up, is the seat of chemical and vital change, is detained in or near the pelvis, or is carried away to distant parts, or alters the composition and properties of all the blood in the body; that we have purulent infection or pyæmia, putrid infection or septicæmia—can all this arise in a healthy woman placed in favourable conditions if she is not exposed to morbid poison? Is puerperal fever ever a simple traumatic fever modified by puerperal conditions, or does it always and necessarily depend on the action of a morbid poison? Or let me put the questions in another form. Did you ever see a case of puerperal fever which was not really either a case of scarlet fever or measles, or some such infectious and contagious fever, or erysipelas, or a traumatic fever caused by the bruising or tearing of the parts concerned in childbirth and the changes in the blood-vessels, blood, and lymphatics following the injury? If you have seen such a case, then let us know something about the fever, its period of latency, its course and duration, and its termination, and especially tell us something about the poison which has been the cause of the fever. Time does not allow me to do more than put the question. I await your reply, and pass on to the fourth, fifth, and sixth heads of our subject, which I will also read together. "4. Assuming that a form of continued fever, communicable by inoculation, contagion, or infection, does frequently occur in connexion with childbirth, how can its spread in private and in hospital practice be most certainly prevented or checked? 5. What relation have bacteria and allied organic forms to the pyæmic process in the puerperal state? 6. What is the value of antiseptics in the prevention and curative treatment of puerperal fever?" And to show the close connexion of these with the previous questions, I must remind you that even those who admit that a tear of the perineum or a bruise of the vulva, by leading to inflammatory exudation around the vagina or uterus, or to clotting of blood in the veins and consequent changes in the whole of the blood in the body, is quite sufficient to account for fever, which, aggravated by the puerperal condition, may lead to all the local lesions specified in the note to the official definition of puerperal fever—even these believers in the spontaneous or local origin of the fever (seeing the hundreds of cases where the injury is observed without the fever for every one where the fever is observed), the prevalence of the fever in certain seasons and districts and in the practice of certain surgeons or midwives, still freely admit that it is only under some endemic or epidemic condition or as a result of contagion or infection that the ordinary wounds or bruises or tears inevitable during the process of parturition, and commonly so free from any serious consequence, become in exceptional cases so deadly. It is especially in this direction that the knowledge of our country fellows may be of the greatest value to us. In the practice of a large hospital, or in private practice in a large city or thickly populated district, it is impossible to say that a patient may not have been exposed to some contagious or infectious disease. But when isolated cases arise in private practice in the country, where any source of poisoning can be readily traced, the accurate record of such cases, their origin and course, and their arrest or extension, may be of incalculable value. A country surgeon attends a man who has erysipelas after a broken arm. He also attends a healthy woman in an isolated cottage in a natural labour. There is no puerperal fever in the district, yet this woman dies of puerperal fever, and so do others attended about the same time by the same surgeon. Those women, in all probability, would have recovered in the ordinary course had not erysipelas occurred in the man who broke his arm. Such a history as this would have tenfold weight, as being free from numerous sources of fallacy and doubt, to any similar history in a large city. And, again, we cannot consider the modes of preventing the spread of puerperal fever without examining into the part which bacteria and other organic forms may play, either as poisons or as carriers of poison. I must ask you to allow me to refer to a paper which I read twelve years ago at Cambridge on the Causes of Excessive Mortality after Surgical Operations. It may be found in the second volume of the *Medical Times and Gazette* for 1864. In that paper I gave some account of Pasteur's researches on fermentation, on the organised corpuscles in the air, on spontaneous generation, and on putrefaction; sketching rapidly the results of some of his researches to show the influence of the germs of the lowest organisms present in the atmosphere—especially bacteria and vibrios—upon animal bodies in health and disease, and on our tissues during life and after death, and especially upon the development of epidemic and contagious diseases. I also showed from the observations of Angus Smith, Chalvet, Eiselt, and Riveil, that germs may be often found in the air of crowded rooms and hospital wards, which only require favourable conditions for their rapid development. Now that the influence of bacteria is beginning to assume a more general importance in pathological investigation, I must ask you to listen to the following account, published, I must remind you, twelve years ago, of what I even then thought Pasteur's discoveries were leading us to. "Carrying on the analogy between puerperal fever and purulent infection in the various forms which contribute so large a share to the excessive mortality after surgical operations, and applying the knowledge for which we are indebted to Pasteur of the presence in the atmosphere of organic germs which will grow, develop, and multiply, under favourable conditions, it is easy to understand that some germs find their most appropriate nutriment in the secretions from wounds, or in pus, and that they so modify it as to convert it into a poison when absorbed; or that the germs after development, multiplication, and death may form a putrid infecting matter; or that they may enter the blood and develop themselves, effecting in the process deadly changes in the circulating fluid. That these low forms of animal life may seriously affect the blood of the higher orders of animals is clearly proved by the recent researches of Davaine, who has furnished us with the first well-established example of a disease of the blood due to the presence of inferior beings which are capable of development and multiplication in the torrent of the circulation. These creatures (bacteria) differ from the whole class of infusoria which form in putrefied matter, as they disappear completely as soon as putrefaction of the blood commences. The bacteria are rapid consumers of oxygen, and when they exist in the blood they absorb the greater

portion of the oxygen furnished by respiration, and thus hinder the combustion of all the effete and used-up substances which ought to be eliminated from the body." I may also say that in the same paper I gave some account of the relation of bacteria to splenic apoplexy in sheep; and referred to the demonstrations of the presence of living germs in the air capable of reproducing contagious diseases by Lemaire's finding the achorion in the air which had passed over a scalp affected with favus, and by the experiments of Kennedy and Salisbury in the production of measles by the inoculation or inhalation of fungi given off from mouldy straw or linseed-meal. And then, in concluding that paper —after recording proofs, first, that the injection of a certain quantity of pus into the blood produces pyæmia and affections characterised by multiple abscesses; secondly, that the injection of putrid matter produces septicæmia, or putrid infection characterised by the symptoms of typhoid gastro-enteritis; thirdly, that the injection into the blood of the exudative material in contagious diseases, as in glanders, produces the general contagious affections; and that in all these cases the introduction of the foreign substance or poison into the blood must be regarded as the origin of the disease,—I went on to give some account of Polli's antiseptic treatment of these various forms of disease by sulphuric acid and the alkaline and earthy sulphates, showing how they arrest or prevent fermentation and putrefaction, and how it might not only be expected that the living fluids and tissues charged with the sulphites would resist the action of morbid poisons, but that there were proofs that when the sulphites have been taken they really have altered the action of pus upon the blood of a living animal as well as that of putrid matters injected into the blood and that of a virus distinctly contagious and not putrid. This was in 1864. It was two years afterwards—towards the end of 1866—that Lister began to treat cases antiseptically in the Glasgow Infirmary, using carbolic acid rather than sulphurous acid or the sulphites, but with the express purpose of destroying the organic germs present in the air or in any of the liquids or solid substances about the patient, and of protecting any wounded or injured part from the contact or development of the germs. How he has gone on gradually perfecting the details of the antiseptic system I need not describe to you; and the results are too well known to require more than the most passing allusion to the prevention of surgical fever, of pyæmia, and septicæmia, the checking the spread of erysipelas after its importation into a wound, the lessening of mutability after both the greater and the more trifling operations, the saving of limbs after compound fractures, the healing of large burns, ulcers, or abscesses, and the general freedom of hospital wards from noxious odours and matters, and from the introduction of poison from the dead-house or dissecting-room, while the hospital atmosphere is not only purified for the patients, but for the surgeons and nurses. If all this has been gained since 1866 in Glasgow and Edinburgh, and in other British and foreign hospitals, where the example has been more or less closely followed, if traumatic fever and pyæmia can be kept out of a surgical hospital, why should not puerperal fever be kept out of a lying-in hospital or be prevented from spreading if it has been accidentally imported? There has been a great outcry against lying-in hospitals of late; but I trust this Society may be able to guide the feeling rather in the direction of freeing them from puerperal fever than of destroying them. What has been done by reducing the size of a surgical hospital, the size of its wards, the number of beds in each ward, the number of attendants, and enforcing the utmost care in protecting the patient from any contagious or infectious influence, and in securing the greatest possible cleanliness in all things about her, in reducing the mortality after one of the most serious operations to which a human body can be subjected and still live, is known to those who have watched the progress of ovariotomy. It is for you to say whether a similar enforcement of obedience to the laws of sanitary science, a more exact observation of the origin and progress of the many different conditions which have been classed together under the one head "Puerperal Fever," and of the treatment called for by each condition, and a careful attention to the details of the antiseptic system as it is brought more completely into accord with our daily increasing knowledge of the natural history of the lowest forms of organic life, shall or shall not be your rule and guide henceforth in your daily practice. What I have said in the very hasty and imperfect sketch it has been possible for me to offer in the few minutes you have so kindly accorded to me may soon pass out of your thoughts; but I am fully persuaded that there are many here to-night who will be able to assure us that such a diminution of unnecessary or excessive mortality after childbirth may be hoped for as may relieve you and your successors from much anxiety and sorrow, and, while making your own lives more useful and happy, may raise still higher in national esteem the noble profession to which we should all be proud to belong.

Dr. LEISHMAN.—Mr. President, in availing myself of the opportunity which the courteous invitation has permitted to me of taking part in this discussion—for I presume there can be little doubt that the remarks of to-night will more or less take the form of a discussion—I am a little taken aback in your having selected me as the first speaker after the distinguished essayist of this evening. I confess, however, that I have a peculiar satisfaction in being able to speak to-night on this subject. I may say that I have, in some measure, a personal satisfaction in speaking, upon various grounds. I think I shall have the support and sympathy of every person present whose duty it has been to teach the subject of obstetrics, and still more perhaps I may have the support of those who have had occasion to write upon this particular department of obstetrics, when I say that when in their lectures they approach the subject of puerperal fever they have felt that they were approaching a subject with which they were in a great measure incompetent to deal. It is not for me to explain, nor would I presume for a moment to indicate, the reasons of this in all their bearings; but I can well understand, and from experience I can assert, that the difference of opinion which has at all times existed on this subject has been the main reason of this confusion. I have a strong personal feeling in regard to this subject, because I have to some limited extent disseminated views which I now feel to have been erroneous; and I am therefore glad to have this opportunity, before such a distinguished body of my fellow practitioners, of disclaiming, and in a sense abjuring, certain errors which I have had some share in disseminating among the juniors of the profession. I have regretted every day since I wrote on the subject that I had not more thoroughly investigated the evidence of the pyæmic source of puerperal fever, for the more I have done so the more convinced have I become that in a large proportion, at all events, of these cases there is strong evidence to lead us to believe that they have their origin in pyæmic or septicæmic infection. I am not prepared to go the length to which I believe many writers in Germany, and some in this country, have gone, in supposing that we are permitted to accept this pyæmic theory as the solution of all our difficulties; that by admitting pyæmia, or septicæmia, or ichoræmia, or whatever you choose to call it, as the cause of puerperal fever, we get rid of all our difficulties; and that for what we have hitherto considered *chaos* we may in future read *cosmos*. I do not believe that it is so, for there are points of difficulty which must arise in the mind of every man of experience which have yet to be solved. I admit, and I should like to admit with all possible emphasis on an occasion like the present, that I believe the pyæmic or septicæmic origin of many cases of puerperal fever has been fully and thoroughly established; but I am not at all sure that this will account for all the cases that come before us in practice. There are cases in which a patient in the puerperal state unfortunately becomes the subject of diseases of specific origin. I may mention as an illustration scarlatina. A patient becomes infected with the specific poison of scarlatina. There is nothing in practice which we dread so much, and the result unfortunately proves that our dread is well founded. But in the later history of such cases I have had a difficulty in discovering any difference between the cases which we may suppose to have a specific origin and those which have proceeded from a specific poison. Again, there is another class of cases in which it would appear as if the original symptoms were more those of a local inflammation, be it metritis or peritonitis, localised or general; and in all these instances, whatever the initiatory symptoms may have been, in so far as my experience enables me to form an opinion, I have again a difficulty in separating those cases, as far as the final symptoms are concerned,

from those in which puerperal fever is dependent on pyæmia or septicæmia. These I take the liberty of presenting to the Society merely as the difficulties which have suggested themselves to my mind, having naturally and as a matter of necessity had the subject under consideration for a long time. I well know that in what I have written on the subject I have stated views which I am not prepared to support; I therefore begin by frankly withdrawing something of what I had previously written, and perhaps what I now state may enable those members of the Society, if there be any such, who have done me the honour of perusing what I have published to correct those views. There are other points which suggest difficulties. We have frequently been informed that these diseases are likely to be engendered by decomposing animal matters, from whatever source the decomposition may originally arise. It has been very commonly asserted—and rules, in fact, have been framed bearing upon the question, in those countries more particularly in which puerperal fever is most common—that students who dissect are liable to convey this infection. I have not the slightest idea of calling in question the accuracy of this assertion, but what I should like to point out is this, that if this were so certain and so frequent a method of communicating the disease as some would suppose, we should have far more puerperal fever in the practice of students who dissect. Then, again, if we are to assume this question of pyæmia as identical with puerperal fever, we know what pyæmia is in a surgical hospital. I presume it was the prevalence of pyæmia in surgical hospitals which led the late Sir James Simpson to write his celebrated papers on hospitals. Pyæmia in a surgical hospital is a dreadful scourge. It may be conveyed by the surgeon, it may be conveyed by dressers, by nurses, by anybody, and beyond a doubt it may be conveyed, as Professor Lister has so clearly shown, through the atmosphere. I consider that that is a point which nowadays is demonstrated. Yet in surgical hospitals pyæmia is not such a scourge as puerperal fever is in a lying-in hospital. If you have the disease once existing in a lying-in hospital, you have it communicated with a frequency, with a fearful fatality in point of result, which it is appalling to contemplate; so much so indeed that I think I scarcely exaggerate matters when I say that in some continental towns the condition of a woman entering a lying-in hospital for attendance and care during the puerperal period is something like this—that she must be content to incur the risk of a patient who takes typhus fever, in the discharge of this purely physiological function. Now, this identity of pyæmia and septicæmia with puerperal fever may be established within certain limits, or it may not; but it appears to me that there is an intensity in the infection—that there is a peculiarity in the conditions, or there may be (as has often been said) in the woman in the puerperal state a peculiar condition which renders her specially liable to impressions which we know very little about, that may account for all this. These are points which, in connexion with those that have been formulated so kindly and ably for us by Mr. Spencer Wells, it appears to me should be taken under the consideration of the Society. I am unwilling to take up the time of the Society longer. There are many points on which I should like to speak, but I should be sorry to carry the forbearance of the Society even to the limits in point of time which you have laid down. I cannot, however, sit down without congratulating the Society as a body on the fact that this important subject, perhaps one of the most important of the present day, has been in this prominent manner brought under the notice of the Society in the temperate and dispassionate manner that it has been to-night, rather inviting discussion than stating broad and distinct views with which we must agree or from which we must be prepared absolutely to dissent. And I would almost venture to predict that the result of the discussion which has been inaugurated to-night, auguring from the interest which it seems to have awakened in all quarters, will be a result which will be for good, for abiding good, on the future history of obstetrics.

DR. NEWMAN.—In rising to speak, I may say that I meet the requirements of your courteous invitation in two respects. I am a medical practitioner, and I have come from a distance—I cannot say with the express object of being here to-night; but, at all events, I am glad that the opportunity should offer itself to me of listening to the discussion this evening on a subject of so much importance to us all. You will pardon me if, in speaking on the matter, I may seem to speak too egotistically. I simply say that, after some twenty years of tolerably hard country work, first in a village, then in a country town, in general practice and hospital practice, I have come to certain conclusions, which may or may not be correct, and which I should have a difficulty in following out one by one, giving you the arguments that have brought me to these conclusions. In taking the propositions which Mr. Spencer Wells has formulated for us this evening, I may say, in the first instance, that I should hold strongly that there is no such thing as a definite puerperal fever, so called. In the next place, I should say, with equal decision, that in a large number of cases of puerperal fever—I have traced it in my own personal experience, and have known it in the practice of other gentlemen with whom I happen to have been associated—there has been a distant, it may be, yet a definite, link in the occurrence of possible transmission to the patient of some definite infecting poison. I cannot give a much more striking instance of it than this. Some years ago I saw a lady who was exceedingly ill with puerperal fever. Two days after my visit she died. The opportunity was afforded me of close inquiry—I might almost say, exhaustive inquiry—into the history of the few days or few weeks that preceded her delivery. It turned out that there had been a visit paid by her to the house of a neighbour in the same village, and a child in the house was at that moment suffering from scarlet fever. She knew nothing of it; she simply knew that the child was ill. She paid no attention to it, and, until the inquiry was pushed as closely as it could be, there had been no association in the mind of the patient or in the mind of the medical attendant (for he came from a distance), or of anyone connected with her, that could have been the cause of the disease that led to the fatal issue. I should take that simply as a type, and say that my impression is that in a large number of instances, of some of which I have notes and of some none, the condition in question has its origin in direct or indirect communication with some infective process. There is another set of cases—and I am again drawing on my memory for a very clear one that I happen to have seen—where I believe that a local inflammatory mischief may unquestionably kill, by its production of a definite pyæmic condition, as certainly as it would kill in the instance of a surgical operation followed by pyæmia. I was asked some time ago to see a woman who had been suffering for two months. She was supposed to have been three or four or five months pregnant, and she had been suffering for two months from a certain amount of hæmorrhage. She had lost so much blood, and her general condition was so bad, that one felt that the only thing to offer her a reasonable chance was at once to empty the uterus. This was done by her own attendant at my suggestion, in the first instance by the dilatation of the os uteri, then by manual removal of the fœtus or ovum and the secundines. Within three days she had rigor; and when I saw her subsequently she had all the symptoms of pyæmia. She had an abscess in the shoulder joint, an abscess in the wrist, and not a few collections of matter in different portions of the body. That again I should take as a type of another set of cases where I believe a morbid process, which we are satisfied to call puerperal fever for want of a better term, had its origin in a direct local lesion. That lesion may have been produced by enforced dilatation and the forcible removal of the retained material; but still, there the condition was. I have further to say—and here I am referring to what has fallen from the previous speaker—that one has very much to bear in mind that even in our present state, with fairly cared-for houses and the rest, there is not uncommonly such a condition of sewer air permeating the houses that the general state of a parturient woman before her delivery is below par, hence the greater tendency on her part to absorb—if I may use the word—infective material, however it may be presented to her. I would further add that there can be very little question that the activity of the vital processes would certainly seem to be associated from the very earliest condition of pregnancy to its close; that the history of every pregnant woman must be understood by a no far-fetched analogy to have a material influence upon the question before us. Given a woman in whom all the vital processes, nervous, circulatory, mental if you like, are

materially excited or altered in their condition of reasonable health, and I should maintain that in that phase alone we have much to look for in the way of an explanation of the reasons why poisons that run a different course, or at all events a slower course, under more ordinary states of every-day life, run, when they have to deal with a parturient woman, a course of far more severity, and far greater rapidity, and, unhappily, far greater fatality. One more remark and I have done. It seems that one should take into consideration—at all events that one should not hastily dismiss—the mental conditions which not uncommonly associate themselves with pregnancy. On this ground it happened to me some years ago to tabulate—I never did anything more than tabulate—a certain number of cases of puerperal fever that had occurred to my own knowledge. I think I may say that in a good number of them there were at all events the elements of distinct mental disturbance. I do not refer to mental disturbance in the sense of insanity, but in the sense of distressing circumstances, of the condition of pregnancy being a result of seduction, and many other reasons which will occur to gentlemen present. These do unquestionably seem to me to play a material part, at all events, in predisposing the system to the virulent development of septic poisons, however they happen to be introduced. I have to apologise to the Society for the very imperfect manner in which I have spoken. I began by saying that I would simply give my own personal impressions. I ask the fellows to be good enough to accept them, and to give to them the very small value that they actually possess. I had no intention when I thought of coming to the Society to join in any way in the discussion, and I may almost say that if I had not had a direct personal invitation I should hardly have dared to do so.

Dr. BRAXTON HICKS.—I suppose it can hardly be expected that we can get through this evening the whole of the difficulties and ambiguities which attend this subject. These discussions, I suppose, tend to bring forward, as Mr. Spencer Wells has said, a certain amount of latent opinion, if we can only get at it, from different members. There is, however, a great deal of crudeness and imperfection necessarily attendant on the bringing forward of opinions which are not matured. I think there are two or three circumstances which have rather retarded our arriving at our present state of knowledge of this subject. One is with reference to clinical observations in hospital practice. Many of the outbreaks have assumed the same type, whatever the particular origin, whether scarlatina or erysipelas; consequently the zymotic condition has very often been overlooked. There is another circumstance by which we have been kept back; it scarcely obtains at the present day, but it has acted severely—that is, people have looked at post-mortem appearances rather than at clinical facts; they saw peritonitis in excess, or phlebitis, or enteritis and they have put down each of these separately to be the cause of puerperal fever. There is also another thing which has rather retarded us. We have been inclined to look at the death of the patient as evidence of the power of these different influences. It is not by the death-rate, but by looking at the after-history of cases, that we can arrive at a conclusion. If we followed the history of every case, we should often find different results from what we have supposed. I think, however, we have here to consider mainly the clinical position of puerperal fever. Let us get clearly the facts on this side, and then let observations on the exact nature of the poisons be carried out simultaneously on the other. It is as well not to trouble or confuse ourselves in this inquiry with the theories and notions that this or that especially is the immediate cause. Bearing on these remarks on hospital cases, I endeavoured three or four years ago to bring before the Society the disease viewed in its other aspect, the clinical aspect in common general practice. You get a better idea by that means of the different influences at work. I brought before the Society the results of 89 cases. I would not have detained the Society by repeating them, but it happens that all the inquiries I have made since prove that those results may be taken as the average of ordinary practice — sometimes diphtheria, sometimes scarlatina; but I think, generally speaking, the result is much as put down in that paper. I found that, of the 89 cases, more than three-fourths had been connected with animal poison, including decomposing material from the uterus. Half of these cases, which were derived from animal poisons, were found to be connected with scarlatina. Scarlatina, in some shape or another, had been introduced into the lying-in woman before or afterwards, or at the time. There are other cases, such as diphtheria and erysipelas, and a very few of decomposing material made up the bulk. It is an extraordinary thing that zymotic influence or animal poison influence should have such a result as to produce three-fourths of these cases. But suppose we exclude all those cases, and say they are cases of scarlatina, &c., then let us examine the 21 that would remain. Then shall we exclude those which have been already alluded to by Dr. Newman—those produced by mental influence, sudden catastrophes occurring to the lying-in woman, excitements of different kinds, which produce most marked results upon the patient? Then, again, shall we exclude a certain number having a traumatic origin owing to bruised tissues? The patient is in ill-health, and then you get pyæmia of more or less intensity. Suppose we exclude one-fourth belonging to the mental cases, and three or four as simply traumatic. Then we have some which are no doubt connected with some exanthema, of which we can find no trace, just as there are cases occurring from scarlatina or other infectious diseases that we can find no trace of. So that altogether we are brought to about 10 or 11 out of 100—10 per cent. of cases in which we have no very definite history. But is that puerperal fever that we are talking about—what we generally term puerperal fever? I say, no. Taking the symptoms of the specific cases, we have scarcely anything to distinguish them. This similarity of symptoms in all the cases is one of the most important points, and is really the source of the great difficulty. In opposition to this, it has been remarked that scarlatina has been often in the lying-in house, or in the lying-in room, sometimes in the lying-in bed, and yet the patient has not caught it. That is quite correct, but let us not say that it might not have an influence. I have seen cases very much the contrary, and I dare say all of us have seen cases in which an opposite result has taken place. But it is not every woman that is liable to the contagion of this or that disease. We have not always the same amount of power of reception. I assume that most married women of two- or three-and-twenty have already gone through scarlatina, and probably are not so susceptible on that account. It would be interesting to ascertain in those cases where scarlatina has had an influence whether the patient has had scarlatina previously or not. That is one point that we want clearly to make out. Another says: "Scarlatina is epidemic in the town, but we have nothing of it in the lying-in hospital." That is no argument. It is, of course, more liable to be introduced, but not necessarily so. If a patient had scarlatina in the ward, and no one caught it, that might be of great importance. The effect of mental emotions, which I have alluded to, is very powerful indeed. I have seen some very notable instances of that, but at the same time there has been but little to show whether they have been exempt from other influences. I heard of a case the other day which seemed to show that mental emotions could set up puerperal fever. A gentleman attended a poor woman, the wife of a coachman. The coachman had had notice to quit, and the wife knew of it just as she was in the act of delivery. She then became violent, and got up and smashed the windows. She was kept quiet for a few hours, and then she fell into a rapid and malignant puerperal fever, and died in a few days. The doctor told me that he had a similar case a day or two afterwards. I saw a case also the other day, where the nurse and the woman had quarrelled, and she was immediately taken with all the symptoms of violent fever, and died. It is evident that mental emotions have the power in some way, directly or indirectly, of bringing about a state of things which we term puerperal fever. Then, with regard to the other circumstance, decomposing material, there is no doubt that that has a very powerful influence; so much is this manifested, that when you wash out the uterus, the symptoms cease almost directly. Sometimes, however, it goes beyond that, and we have not the opportunity of witnessing the recovery of the patient. By these various means there is no doubt that the patient is brought into a state in which she rapidly dies, or if she recovers she has time to show forth those local mischiefs which we used to consider as the essence of the disease, but which we now only regard as the subsequent symptoms. The question seems to me to be this: admitting

that by all these various factors you can produce in the puerperal woman all the symptoms of fever so much alike that you cannot distinguish them, can the fever so set up be communicated as a separate one to other people? I suppose in hospital practice there is a difficulty in giving a direct answer. Hospital practice rather tends to show that it can, and that is perhaps the reason why so many have asserted that there is a specific fever; but if you will look at the record of some of the outbreaks in different hospitals by those who have had carefully to examine in all directions, you will find that they put it down as erysipelas, diphtheria, &c. When, however, you come to ordinary cases in private practice you have this difficulty. When scarlatina, say, has occurred in a house, the children have been the first to take it, and the woman has not had scarlatina at all, but puerperal fever; while in other cases the woman has been the first to be affected: she has puerperal fever, and the children have shortly afterwards died of scarlatina, so that it seems as if the poison had reverted to its original habits in another constitution, and produced the ordinary symptoms of scarlatina. This is a difficult question, and wants clearing up. With regard to the contagiousness of puerperal fever, I do not think we can have any doubt if we read all the records; but I think in some cases it is not so contagious as in others. If I express an opinion it is that the exanthematous or zymotic-caused fever is more contagious than simple surgical traumatic fever. I doubt if an aggregation of a large number of people in a lying-in ward does set up puerperal fever. It tends to increase the number of cases if puerperal fever gets in, but I doubt, if ordinary cleanliness is used, whether any such case as that would occur. I think hospitalism is the term employed when every portion of the room is infected by this poison, whatever it is. I suppose that is the reason why Sir James Simpson wrote as he did respecting it.

Mr. JONATHAN HUTCHINSON.—I of course have nothing to do with obstetrics or with puerperal fever; but I believe that the subject is one which has its analogies in general surgical practice, and one of the most interesting points in Mr. Spencer Wells's address was the manner in which he traced that analogy. If I correctly understood his views, he seemed to place puerperal fever almost exactly in the position in which we place the several kinds of maladies from which our patients suffer after operations. He would say that there is no such thing as a specific poison which can produce any fever that should be known as puerperal fever; but that a number of maladies induced by various causes have been grouped together under that name, and I thought that he very ably classified these according to the several causes which produced them. I hope the time will come when he will extend his unwillingness to use such a vague term as "puerperal fever" to a term which I think he accidentally used—"surgical fever." For if puerperal fever be absurd, I contend that surgical fever still more leads us aside from the consideration of the true causes of the malady. If I may be permitted, I should like to say a few words on the great importance of attempting to define as precisely as we can the terms we use. I think we should much more easily get to conclusions, and find a much greater unanimity of opinion, if we did take these several terms—"septicæmia," "pyæmia," "specific disease," "specific fevers,"—and try to attach to them some definite meanings. Although it may seem presumptuous, I will state what my own opinions would be upon that subject, with great deference to the Society, and hoping to hear my views criticised and set right if they seem to be erroneous. I will say at once, with regard to erysipelas—a disease which is of great importance in reference to puerperal fever, having the most of proof concerning it,—that the contagion from it is one which is potent in the introduction of the local inflammation which produces puerperal fever. I express in the most unqualified terms my belief that erysipelas is not a specific fever; that it is only a local form of inflammation; that the local form of inflammation may vary in intensity, may vary in duration, may be induced by many different causes, may undoubtedly be produced by contagion from the secretion from an erysipelatous patient, but may also be produced by other causes; and that the pyrexial symptoms and general disturbance are secondary to the local inflammation, and are proportionate to the local erysipelatous inflammation that exists. I have expressed this opinion on many occasions. It is the opinion, I believe, originally stated by Mr. Marshall Hall Higginbottom, of Nottingham; and I regret that in the majority of our systematic works, without defending the position of erysipelas to rank as a specific disease, it is still so defined: people still speak of it as if it were a disease which had a stage of incubation, which I deny. I say it originates simply in the state of introduction. There is a day or two when the patient is ill; the disease wants a little time to develop; but there is no true stage of incubation. When we know that it arises from contagion it will develop in a day or two of the virus being applied—within twenty-four hours,—and that is fatal to its claim to rank as a disease due to a specific poison. Then we never see it prevail symmetrically in various parts of the body, as it certainly would do if it were due to the introduction of any specific germs, which would develop in the blood in the same manner as we know the specific poisons of small-pox, scarlet fever, and measles do. I assert next that erysipelas may be checked at any stage; that appropriate treatment will stop it at a very early stage in a manner which would be utterly impossible if you were dealing with a specific fever. I next assert that this will apply to stages of inflammation of the uterus and the uterine appendages which are due to erysipelatous contagion, that they are not to be ranked as specific fevers, but as things which may be put an end to by appropriate treatment at any stage. Dr. Braxton Hicks has just insisted, no doubt as the result of practical experience, on the importance of washing out the uterus; so that the thing is curable, and does not run through any definite stages. Having made this assertion respecting erysipelas, that it is to be defined as a local inflammation which has special peculiarities that are capable of pretty easy definition, but having no true analogy to specific fevers, I must attempt to give some meaning to the term septicæmia. Now, for that we have two meanings afloat in the professional mind. One is that it is due to some poison which is introduced into the patient's blood from without, that the poison then grows, spreads, germinates in the blood, and produces the symptoms. Now, what I would like to suggest is this, that the term septicæmia ought to be applied to the results of poisoning of blood induced by the inflammation of the patient's own tissues. I admit that every now and then, in connexion with a poisoned wound, the phenomena of septicæmia follow. To illustrate what I mean I will mention two cases. I had amputated the finger of a professional friend on account of gangrene, the result of acute inflammation, owing to a poisoned wound. He had scratched his finger with a piece of carious bone. He had put a little plaster upon it, but acute inflammation followed, which passed into gangrene, and I had to remove the finger at the joint. He was very ill at the time. This might be called septicæmia, the finger having been poisoned and inflamed. My own belief is that the character of the poison which was introduced was really of no importance; that there was something special in the state of the patient's health, perhaps something a little irritating in the secretion. The gangrene was the result of inflammation, and the constitutional symptoms were the result of the blood circulating through the finger, and back again through a portion of tissue which passed into gangrene. I once amputated a foot on account of gangrene in a case in which I knew that the man's femoral artery was occluded. The gangrene was continually spreading, and we were obliged to remove it. Fearing the gangrene, and knowing that there was no femoral artery, I amputated just below the knee. The leg was in a perfect state of health in that part, but within twenty-four hours of the amputation, in connexion no doubt with a deficient supply of blood, the stump passed into gangrene, which spread rapidly to the thigh; it all became dusky, and the patient was sick, the pulse rose to 160, he was feverish, had a dry tongue, and, in fact, was in a condition evidencing acute septicæmia. He was being poisoned, according to the way in which I would like to use the term, by the absorption of fluids from his gangrenous leg. The blood was going through and back again; every time the body became contaminated by the circulation, and the man would have died if we had not adopted other measures. Believing that the leg was poisoned, I amputated again at once below the hip-joint, high up, at a part where the circulation was better. He was extremely ill at the time, and, contrary to my expectation, he made a good recovery. I quote the case as proving that the removal of the source of

the poison was efficient in removing the septicæmic symptoms. I may also mention the case of a gentleman who had insured his life in the Accidental Insurance Office. He had slipped in the street, and dislocated his thumb (a compound dislocation), and he died some six or eight days afterwards with symptoms of septicæmia — vomiting, a rapid pulse, dry tongue, shivering. His hand had passed into a state of gangrene. There was a long legal dispute as to whether he died of the accident or of something in connexion with his general health. I mention this case, in connexion with the others, as an illustration of what I believe, that it was gangrene of the hand that poisoned the patient. I mentioned the case of a medical man who poisoned his finger, gangrene followed, the finger was removed, and he had some of the symptoms of septicæmic poisoning. I wanted to confute the prevalent idea that some morbid matter is taken into the blood in every case in which septicæmic symptoms are present, and that that matter is the cause of the septicæmic symptoms. The next case in which I had to remove a finger was almost exactly analogous. It was the case of a poor sempstress who had no poisoned wound whatever. A prick of a needle on the finger had led to gangrene, and she had a similar train of symptoms. We very often get symptoms of septicæmia in cases in which there has been no possibility of their being produced by morbid poison; and it is quite impossible to distinguish between the cases in which gangrene follows an injury in a more or less unhealthy person without any introduction of morbid poison, and the cases in which inflammation follows where there has been some possible introduction of a small amount of morbid poison. I admit the influence of morbid matter as an irritant in setting up inflammation, but what I wish to hint is that I believe the stage of gangrenous inflammation of the part is an essential stage of septicæmia, that that is an important part of the case, and that it is possible for pyæmia to occur without any local poison whatever. So much then for septicæmia. I think we should do well to keep it distinct from the term pyæmia. Then, upon the far more important subject of pyæmia, I think we should give a little more attention to the opinions of our forefathers, and I believe that no one could get more information on this subject from any papers by modern writers than from the original paper which drew attention to the subject, by the late Mr. Arnott, written some forty-five years ago. Next in importance to the paper of Mr. Arnott I rank the papers of Dr. Robert Lee, a series of admirable papers upon puerperal fever—a perfect mine of correct information upon that subject. If we studied those papers in the Medico-Chirurgical Transactions I feel certain that we should not have afloat the very erroneous opinions respecting pyæmia which have gained admission into some of our most important text-books, very much to the regret of many. The great heresy that at present prevails respecting pyæmia, at least, according to my belief, is that it is possible for pyæmia to be introduced by the introduction of a specific poison from without into the blood. I no more believe that than I believe that septicæmia is so induced. Pyæmia, I hold, is produced by an inflammation of the patient's own tissues. What we call pyæmia in more typical cases is due to a poisoning of the blood by inflammation of the veins. I regretted that Mr. Spencer Wells was a little vague upon that point. He spoke of coagulation of the blood and the breaking up of the coagula. Now, in spite of experiments upon the lower animals telling us of the difficulty of making the veins inflamed, I hold that anyone who goes into the post-mortem room and examines the veins in cases of pyæmia will have no doubt that the veins do inflame. And that is not confuted by saying that we have cases of phlebitis without pyæmia, that there is coagulation of blood in the veins, solid masses formed in varicose veins, and yet we do not fear pyæmia. Of course we do not. The things are totally different. But that there is a suppurative and gangrenous phlebitis in which the veins become full of pus, I hold to be thoroughly established by the records of surgery and by daily experience. It is not the breaking down of the blood clot; it is the ulcerative suppurative destruction of the vein itself. I could produce illustrations to-night showing this in various parts in the most typical cases of pyæmia. I do not say that the term "pyæmia" is to be restricted to these cases. I think it is quite possible that there are other cases in which multiple abscesses are formed in which there is no phlebitis; but I believe we shall proceed on a safe basis of classification if we at any rate accept these most definite forms of pyæmia which are due to inflammation of the veins as an important group in connexion with the disease under discussion.

Dr. RICHARDSON.—If Mr. Spencer Wells succeeds in producing unanimity of opinion on the subject of puerperal fever he may congratulate himself on achieving a success second only to his achievements in surgery. I believe we are unanimous in the use of the word, but perhaps no two of us are agreed as to the clinical applicability of it when we meet with cases of a puerperal kind. The view I would start with in regard to this rests with the condition of the woman after delivery. She is at that time physiologically in a peculiar position. First, her blood is in a peculiar condition. That colloidal fluid which, separated into a solid form, we call fibrine, is sometimes in excess from 3 to 6 or 7, and (as I once found on a direct analysis) 8 parts in 1000; so that the blood is at this moment in a trembling equilibrium, ready on the slightest possible disturbance to precipitate it. Then there is a diminution of salts in the blood—again a condition favourable to the precipitation of the colloidal fibrine. Then this woman has been for a time supplying to the child a mass of blood from her own body which now has stopped, so that practically she is in the condition of a person who has lost a limb, a considerable portion of the body. Then she is in a nervous condition. She has been supplying from her own potential energy that element which has been shown in the movements of the fœtus, and now that is stopped, and she is suffering from that nervous reaction which comes on when that motion is suddenly arrested. She is therefore in the exact condition for a series of changes which must necessarily be febrile in character; and I think we must bear in mind this position of women physiologically before we enter upon the subject at all. To these facts we must add those which we have reason to learn in regard to hereditary qualities. We must accept the fact that there are a considerable number of women who are hereditarily predisposed to particular diseases, and I think we cannot except puerperal fever from this position. Then we come to consider the woman in this state, and we ask the series of questions which Mr. Spencer Wells has placed before us. Taking these questions one by one I should say that from experiment as well as observation I should be unable to declare that there was any such thing as a special poison belonging to the puerperal state, or a special poison creating puerperal fever. It is quite true that, puerperal fever once started, there is a poison formed which will apparently communicate the disease, but there are certain varied forms of this poison, though, perhaps, all these poisons have one common meaning, if we could look at them fully; but there are so many poisons derived from other sources, which seem to have the power of producing the disease, that this special poison we cannot look upon as we do the poison of small-pox and scarlet fever. Neither can we say, in respect to this first question, that there are such local lesions as would lead us, in the dissecting-room, in any case to say this was a case of puerperal fever, as we should say this is a case of scarlet fever or of typhoid or of typhus fever. In fact, I recollect making a post-mortem some years ago, in a case of what was called puerperal fever, in a lady of some distinction in the metropolis. There were four eminent members of the profession present, and they were none of them agreed on this very point. One said it was a simple case of peritonitis. We then began to discuss whether, supposing this case was going before a jury, and we had to give our opinions, we could formulate in any way a series of pathological changes which would indicate the cause of death as due to puerperal fever. Or, to put it in another way, supposing one of our fellows had said: "This is a case of puerperal fever; will you make a post-mortem examination?" would any of us know precisely what we were going to find as distinguishing that diagnosis? I should give a negative answer, therefore, to the question of Mr. Wells, both as regards the special poison and as regards the special characteristic pathology of this disease. In regard to the second question, as to whether any or all of the forms of puerperal fever may be referred to an attack of infective continued fever, as scarlet fever, and so on, I should also offer that a negative. Under the term puerperal fever, as I have been

obliged to recognise it, from being frequently summoned to see cases which are so called, I should say that I have seen four distinct forms of fever which clearly may bear this name. For instance, there is the pure, simple surgical fever, as we may call it, following upon the delivery of the child. I presume there is no such thing (at any rate the exceptions are very rare) as a case of delivery which is not followed by some slight febrile state. That is necessitated by the changed physiological conditions, by the increased tension of the vessels which must occur from the removal of so much blood in the uterine circulation, and by the irritation that has occurred in the breasts previous to the secretion of milk. There is always this simple surgical fever similar to that which occurs after a surgeon has removed a limb. This, in fact, is a fever of resistance, as I have called it in a paper that I have written on the subject. Now, I am bound to say that I have seen some cases of so-called puerperal fever which were nothing more than exaggerated forms of this fever, which, it may be, has become exceedingly severe, in which we have had true inflammatory fever, and apparent indications of danger from that source; nay, in one case I have seen a fatal result from the formation of a clot of fibrine in the heart. In that case there was a simple rise of temperature of four degrees following the confinement, then a sudden collapse. An exceedingly rich blood, rich in fibrine, had been so modified by that simple rise in temperature and by the increased friction of the blood passing through the heart that a deposition of fibrine had taken place in the right auricle; that had increased, layers of fibrine had been laid down, layer upon layer, as in aneurism, and ultimately a complete bag of fibrine was formed; there was an extension of that into the pulmonary artery, a loosening of the whole, and then death; yet no trace of the disease in any part of the patient, not in the uterus, not in any organ of the body, except that there was an incidental plugging up of the right side of the heart. We see such cases occurring in simple instances of pneumonia and some other forms of trifling inflammatory diseases. An attack of erysipelas, with a slight blush, in the leg, I have known terminate in a few hours in death in the same way. Then I have seen another form of puerperal fever (many will recall similar cases) of what may be called a remittent character, with slight symptoms or extreme symptoms of jaundice. Twice I have seen this coming on with high fever in the puerperal state. In a case of Mr. Palmer, of Mortlake, this occurred. It was a pure case of bilious remittent fever occurring in a neighbourhood where there was no puerperal fever about, and ending fatally in a few hours, with all the conditions of yellow fever. I have seen cases ending fatally with this remittent bilious character pertaining to them in other instances. Then there is another class of cases, such as Mr. Hutchinson referred to, where there is a true introduction into the body of the patient of matter derived probably from the uterine sinuses, and where we get one of the true distinctive forms of septicæmic poisoning—a form in which the material becomes dark, and death takes place from deficient oxidation, and a form where there is a separation of fibrine coming on rapidly, and terminating by stopping the circulation of the blood through the right side of the heart. These cases seem to me to be of that class spoken of by many speakers here, where there has been some local injury, exposure of cellular tissue, the rupture or exposure of a vein, the formation of a modified secretion, the absorption of that, and death from what Mr. Hutchinson correctly called poisoning, immediately from the patient herself. Then, lastly, there is another source of puerperal cases, where without doubt a poison appears to be carried into the body from without; and here comes the singular part of this poisoning, that the poison may seem to belong to any one of the poisonous diseases so long as it reaches the patient, and that it may not be in the strict sense of the word, so far as we know, a poisonous secretion at all—it is poisonous in the individual sense, but not poisonous as coming from any person who has been poisoned. We have instances of scarlet fever apparently provoking the puerperal condition in this way; we have instances of erysipelas, and I can adduce examples of all kinds. We have examples of poison derived from other puerperal cases, and we have that extraordinary instance recorded, with great faithfulness and honesty, by Mr. Huntley, of Jarrow-on-Tyne, where he shows by a series of conclusive arguments that a secretion from his own hand was the cause three times successively, after intervals of several months' practice, of conveying poisonous matter to patients, and so inducing puerperal fever. These are true cases of septicæmic puerperal fever, where we must assume that the poisonous matter is carried from the hand or by some other channel into the uterine surface, where it meets with a favourable reception for absorption, and so is conveyed into the body, producing all those phenomena which we have experimentally induced by inoculation. With regard to this second question I should say that there is no special form of puerperal fever, no one particular type of the disease which we can say bears that name, but that there are several varied forms of the disease, terminating much in the same way, but having distinct characteristics; that some are contagious and some not contagious; that some spring from what you may call a natural condition of the patient, others from an injury of the patient, others from the introduction of morbid material. This again bears on the third question:—"If all cases of contagious and infectious disease which occur under other conditions than that of childbirth are set aside, does there remain any such disease as puerperal fever?" To that I should answer that, barring that natural febrile state which follows upon confinement, as surgical fever follows upon injury, there is no such thing as puerperal fever, and in that I should agree with Dr. Braxton Hicks. As regards the fourth question put forward by Mr. Spencer Wells—the means of preventing the spread of the disease—I have nothing to add to what was said by Dr. Braxton Hicks as to the effect of washing and the general measure of removing the source of poison and isolating the patient. Then I am brought to the fifth question, relating to the presence of bacteria and allied organic forms in the puerperal state. That of course only relates to the pure septicæmous condition—the last of puerperal fevers to which I have drawn attention. On this matter, as is well known to most of you, I have held for many years—more than twenty-five years—to the pure physical side of the question, and my opinion is in no way changed by the various views which have been more recently announced, as to the effect of organic germs and bacteria in the production of these diseases. I am at this moment still more firmly adherent to the physical view from my recent researches, which have shown me the probable mode of action of these septicæmous poisons—that they all act after the manner of those inorganic bodies, such as black oxide of platinum, manganese, and other bodies of that class, which in infinitely minute quantities have the power of eliminating oxygen from the blood, and preventing the combination of oxygen with the blood. I take it that the whole of these poisons act in that simple physical manner, and that, as regards the presence of organic germs and bacteria, they are matters of coincidence; that where the conditions are favourable for those organic forms to grow and multiply there they grow and multiply, but that that is entirely coincident—that is to say, the further development of the organic form which can be perceived has no more to do with the production of the disease than the presence of the maggot in the decomposing meat has to do with the decomposition of that meat. To put the point in a simple way, I remember a point in my child-life which will place the position well before the Society. There is a time in country districts which is well known when sheep fall in the field—they may not be dead, but they are found to be infested by carrion crows which sometimes injure them severely, picking out their eyes and doing them a deal of mischief. In my school days I remember that we had a debate, whether the fall of the sheep was due or not to the presence of these carrion crows. They certainly did a deal of mischief, and my school-fellows would go out with stones and sticks to drive them away; others thought that it was the heaviness of the fleece that caused the sheep to fall, and we used to put the sheep straight on their legs to run about again. Now, it seems just the same physical cause at work producing the falling down of a woman with this disease from the influence of septicæmous poisoning; and these products which are found are coincidences, beautiful pieces of natural history—influences which perhaps are not directly favourable to the progress of cure when once they are developed, but they are purely matters of natural history removed altogether from the physical character of the true action of the septicæmous poison. I have but a few other remarks to make. My impression is, that in the

course of time we shall arrive at the discovery of certain agents which will immediately stop the action of septicæmous poisons by their direct physical effect upon the blood, and their influences in holding oxygen in combination with the blood. I have recently referred in another Society to the effect of quinine in this respect, but that is a bungling, crude method of dealing with an agent that will act in such proportions as the ten-thousandth or the hundred-thousandth part of a grain so as to produce disturbance within the organism. So, dealing with this matter of antiseptics, I should say that if antiseptics, as they are called—that is, bodies which prevent putrefaction—are advanced as a means of curing these particular diseases arising from septicæmous poisons, their action is not because they are antiseptics (because other agents which are not antiseptics possess a similar property), but for the simple reason that they act on a given principle, and many of them act altogether in accord physically, and I might almost add chemically, in neutralising the specific action of those poisonous agents. I mean antiseptics do not act by destroying germs or organic forms, but they act definitely by interfering with the poisonous action of the septicæmous material which produces the fatal disease. I predict that in ten years hence in this Society we shall see a means of preventing these diseases from septicæmous poisonings as clearly as we now see the means of producing them by the introduction of these poisons in the form of inoculated matter in small-pox by vaccination.

CLINICAL SOCIETY OF LONDON.

AT the ordinary meeting of this Society on the 9th inst. the chair was occupied by Sir William Jenner. The exhibition by Dr. Buzzard of a case of disseminated cerebro-spinal sclerosis, side by side with one of paralysis agitans, excited some interest. Dr. Dowse's communication on an unusual case of lead-poisoning was of value on account of the chemical and pathological results, but it seemed to us rather a case of cerebral hæmorrhage occurring in a subject impregnated by lead. Mr. Hutchinson's case of intracranial aneurism was of great interest, from the long duration of the affection and the total absence of optic neuritis. Lastly, Dr. Weber, in drawing a parallel between pyæmia and generalised tuberculosis, met with opposition from Dr. Hilton Fagge.

Dr. BUZZARD exhibited a patient suffering from Disseminated Cerebro-spinal Sclerosis. The man, a house-painter, aged thirty-three, but looking many years older, was wheeled in a chair to the upper part of the room, and beside him was placed another man affected with Paralysis Agitans; and Dr. Buzzard then proceeded to compare the symptoms by which the two diseases, so often confounded, could be distinguished. The patient with sclerosis, whilst seated and his limbs in repose, showed no signs of tremor in any of his muscles; whilst in the other there were constant rhythmical movements which could be seen even at a distance, and his hands assumed the position characteristic of paralysis agitans, the thumb being applied to the forefinger as in taking a pinch of snuff or rolling a cigarette. The head of the latter patient was projected stiffly forwards; the chin of the former rested upon the upper part of the chest, for the reason that an effort to hold the head upright caused violent agitation of the muscles at the back of the neck. Asked to rise, the patient with sclerosis made at first several ineffectual efforts, his whole body being thrown into violent tremors, the feet being lifted from the ground when evidently he wished to stand upon them; and he attained at last the standing position and made a few steps only with the help of an attendant. The patient with paralysis agitans rose without increase of tremors, and walked easily, but with a hurrying gait, the body bent forward. In answering questions, the articulation of the former patient was greatly embarrassed, the words being clipped and uttered in jerks, and syllables being often repeated three or four times. The patients were then removed, and Dr. Buzzard gave some details of the case of cerebro-spinal sclerosis. The symptoms dated from two years ago, when he was attacked with shakings of the arms and legs—only when he wished to move them. These increasing, he had to give up work after six months, but remained able to walk until six months ago. Attacks of giddiness, with difficulty of articulation, and inability to read many lines without confusion in the type, were added after the first six or eight months, with numbness in the lower extremities, which still continued. The giddiness he has not felt for the last four or five months. There is now some want of power in all four limbs; slight dulness of sensibility in the lower extremities, but no impairment of the functions of the bladder or rectum, and no loss of sexual power. Nor is there loss of muscular sense. He has none of the flying pains characteristic of locomotor ataxy, but occasional pain at the top of the head. The sense of smell is intact; the sight somewhat enfeebled. There is no paralysis of the third, fourth, sixth, seventh, and eighth nerves. The action of the masticatory muscles is a little irregular, and there is tremulousness of the tongue. His wife thinks that he is as intelligent as he ever was; but his difficulty in speech and reading, and inability to rise without help, give him the appearance of hebetude. The ophthalmoscope shows dark greyness of the optic discs, with ill-defined outlines. Dr. Buzzard remarked that, although the anatomical characters of this disease had been described forty years ago by Cruveilhier and Carswell, and many cases had been recorded by other observers, yet credit was due to Dr. Charcot in differentiating this disease from other forms of paralysis, and especially from paralysis agitans. This had been done during the last few years, and the diagnosis had been made so clear that it was almost difficult now to understand the cause of any confusion in the two disorders, whose pathology, he might add, differed completely. Whilst the symptoms in disseminated cerebro-spinal sclerosis were always due to scattered patches of indurated and condensed connective tissue throughout the brain and spinal cord, there was no constant lesion to be found in those who died with paralysis agitans. Dr. Buzzard added that he did not bring forward the case as a pathological curiosity, but with the hope that the more widely diffused was the knowledge of the peculiar features of the disease, the more likely it would be that valuable information would be gleaned as to its earlier stages. In hospital practice it was only seen when confirmed, and then it was too late to treat it with any hope of success.—In reply to a question from the President, Dr. Buzzard said that, as the patient had a blue line on his gums, iodide of potassium was being given to him, and a trial was also being made of the Russian needle-bath, which had appeared to be of some service in one case of the kind.

Dr. DOWSE read notes of an unusual case of Lead-poisoning. The patient, a house-painter, twenty-six years of age, had frequently suffered from colic, but beyond that had robust health. About a month before he was seized with colic, followed by palsy of the forearm extensors, and of the lower extremities, and when first seen he had the characters of general paralysis of the insane. His eyes were dull, intellect obscure, and he could not lift the feet from the ground. There was albuminuria, and a marked blue line on the gums. The next day he was drowsy; there was subsultus tendinum; temperature 102° to 103°; pulse 100. Then followed bilateral facial spasm, trismus, frequent spasmodic jerkings of the upper limbs, the flexors of which were firm and rigid, while the lower limbs were rigidly extended. There was free action of the skin and suppression of urine. The tetanic convulsions continued at intervals, he became cyanosed, and rapidly sank, the temperature rising in the last twelve hours of life from 106° to 110°, the urine being wholly suppressed. At the autopsy, the sinuses of the dura mater were full of blood, and an adherent ante-mortem clot occupied the straight sinus. There was a recent clot on the pia mater, over the occipital lobes; much engorgement of cerebral vessels, and extravasation beneath the velum interpositum. A small cavity occurred in the neighbourhood of the left corpus striatum. The kidneys were engorged, but smooth on surface. The brain and cord were examined microscopically by Mr. Kesteven, and showed extreme congestion, with well-marked perivascular spaces. Colloid bodies, grey degeneration, and miliary sclerosis, were met with in increasing frequency from below upwards, being especially

abundant in the medulla in the region of the hypoglossal nucleus. Chemical analysis showed about $\frac{1}{1\frac{1}{2}}$ of a grain of lead to one ounce of brain substance; a somewhat smaller proportion in the cord. Lead was also found in the extensor muscles of the forearm.

After a short discussion

Mr. JONATHAN HUTCHINSON read notes of a case of Intracranial Aneurism diagnosed during life, and in which spontaneous cure occurred, and the patient lived eight years. The patient, a thin, pale woman, forty years of age, came to Moorfields Ophthalmic Hospital with ptosis of the left eyelid, which almost covered the pupil, and slight convergent strabismus from complete paralysis of the sixth nerve. The recti muscles were weakened, but the superior oblique acted perfectly. The pupil was fixed, and twice as large as its fellow. This condition was first noticed about a year before, when headache, from which she had suffered for ten years, became worse, with throbbing in the right temple. (Mr. Hutchinson remarked that it was so recorded in his notes, but he thought that "right" may have been wrongly stated for "left" temple.) The attacks of throbbing pain with beating sensation in the ears lasted for days together. There was no suspicion of syphilis, and she had borne one child five years before. Two weeks later the left half of the forehead became anæsthetic, and two months later the left pupil was noticed to be oval, almost motionless, but smaller than the right, but the left did not contract when light was thrown into either eye. Diplopia, of which the patient was unaware, was detected when tested by coloured glasses. Within a few months the recti muscles became completely paralysed, but the superior oblique remained unaffected. The fundus oculi was natural, and vision was fairly good, save for loss of accommodation. The portio dura was not implicated, but the fifth was apparently slightly involved, from tingling sensations and numbness occurring in eyelid and part of face. Headache was frequent and intense. Although no notes of stethoscopic examination were preserved, yet Mr. Hutchinson recollects hearing a bruit on several occasions, and the diagnosis lying between aneurism and pulsating tumour was decided in favour of the former. A day was fixed for ligature of the carotid, but the operation having been postponed, it was eventually abandoned, owing to an improvement taking place in the patient's condition. The throbbing pain subsided, but the ptosis and strabismus persisted. Ten years later—in February, 1871—symptoms of abdominal aneurism supervened (in the interval she had frequently been exceedingly ill), pricking pain in the abdomen, constipation, and pulsation synchronous with radial pulse, which was intermittent. There was now paralysis of the superior oblique muscle of the left eye in addition to the other muscles; throbbing pain was still occasionally felt. Death took place in May, 1872, from the abdominal disease; she had latterly had a large abscess from disease of the iliac bone. At the autopsy, a solid aneurism, the size and shape of a pigeon's egg, occupied the middle fossa of the skull on the left side, communicating with the internal carotid artery by an aperture the size of a No. 6 catheter. The distal branches of the artery were pervious. The optic nerve was close to, but not adherent to the sac, which rested on the Gasserian ganglion; the motor nerves of the eyeball were stretched over it and buried in its wall. The tumour was very nearly solid, and its walls partly calcified. (The specimen and a drawing were shown.) There was a dissecting aneurism of the aorta from the arch to the bifurcation of the abdominal aorta. Mr. Hutchinson commented on the absence of any turgescence of tributaries of the ophthalmic vein, and also of any optic neuritis or swelling of the disc, although the tumour had obliterated the cavernous sinus and destroyed all the nerves. The absence of optic neuritis was of especial interest, seeing how frequently it is present when the tumour is at a much greater distance from the nerve. The history of throbbing pain, the gradual implication of the ocular nerves, and the absence of any other disease, were sufficient grounds for proposing ligature of the carotid; and although the patient lived ten years longer, yet the aneurism probably increased somewhat. It is true that the symptoms abated, but the imminent danger she was in would have been met by the operation. He was the more anxious to operate when he proposed it, for a short time before he saw this patient he had known of the case of a lady in whom there were similar but less marked symptoms, who felt giddy while in church, and died suddenly from the rupture of a smaller aneurism in the same position.—Mr. BRUDENELL CARTER thought the absence of optic neuritis to be very interesting, and inquired whether the collateral veins in the neighbourhood of the orbit were enlarged to compensate for the obliteration of the cavernous sinus.—The PRESIDENT mentioned a somewhat similar case to the one quoted by Mr. Hutchinson, which had been met with by Dr. Hare. In this case the paralysis was transient. There was sudden death.—Mr. HUTCHINSON said that there was no opportunity for injecting the veins in the two halves of the face for the purposes of comparison, but he had no doubt that the collateral circulation was perfectly maintained. He had long thought the fact of obstruction in the cavernous sinus being a cause of optic neuritis was over-estimated, and he believed that so able an anatomist as Mr. Hilton had stated that the circulation over the margin of the orbit is almost as complete as that through the cavernous sinus.

Dr. HERMANN WEBER read notes of three cases of Pyæmia caused by Acute Suppuration of the Middle Ear, and a case of Acute General Tuberculosis caused by Chronic Inflammation in the same locality; the cases of pyæmia, he remarked, having occurred in private practice. Case 1 was that of a girl aged six, who was attacked by sore-throat and scarlet fever on March 10th, 1864; on the 14th there was rupture of the tympanum and purulent otorrhœa on the left side; on the 17th and 18th rigors; on the 20th pain in shoulders, followed by abscesses in joints, pleuro-pericarditis, and death. The Eustachian tube and tympanic cavity of the left ear were plugged with thickened pus, the mastoid cells being free; thrombosis of left jugular vein; recent endo-pericarditis; embolic infarction in the spleen, and small abscess in the liver.—Case 2 was that of a boy, aged seven; had a sore-throat (probably diphtheritic) in February, 1859; pyrexia not high. On the eighth day there was great pain in the left ear, followed by rupture of tympanum and discharge of pus. For three weeks there were pyæmic rigors, the temperature reaching 107° F. on three occasions, with rapid subsidence to normal or subnormal levels. There were multiple abscesses. Recovery was slow but complete. The treatment consisted in quinine up to 110 grains per diem, port wine, and good diet.—Case 3 was that of a young man, twenty-one years of age, who was admitted into the German Hospital on October 16th, 1874, suffering from purulent otorrhœa and ruptured tympanum, following sore-throat and pain in the ear. The tonsils and soft palate were swollen and reddened. There was high fever. On the 19th there were violent rigors, which continued at intervals for some weeks; multiple abscesses formed, and there was severe pericarditis. He eventually recovered. Here quinine had been given up to eighty grains a day.—Case 4 was one in which sore-throat led to chronic inflammation of the middle ear, upon which general tuberculosis supervened. The patient was a boy, ten years old, in whom pain in right ear and deafness followed upon an ordinary sore-throat, with which he was attacked in August, 1870. The external meatus was slightly narrowed, and the tympanic membrane slightly bulged. Dr. Weber advised a visit to Mr. Hinton with a view to perforation of the membrane. The boy was, however, taken on the Continent, whence he returned home in November, with cough, vomiting, headaches, and somewhat high pyrexia. He died on November 27th, and, post mortem, miliary tubercles were found in the lungs, liver, spleen, and the peritoneum. There were likewise three small abscesses in the liver. There was also tubercular meningitis. The right tympanic cavity was filled with soft, yellowish-white matter, which also plugged the Eustachian tube. The membrana tympani was thick and yellow. In his remarks on these cases Dr. Weber pointed out that inflammation of the fauces had led by the Eustachian tube to inflammation of the middle ear, and that the products of inflammation had infected the whole system. In three cases, where these products were still pus, the general affection was pyæmia; in the fourth case, where the pus had been allowed to become inspissated and caseous, the general affection was tuberculosis. Upholders of the theory that all tubercular disease was primary would probably say that in this case the otitis was tubercular also. But he was inclined to believe that in this case pyæmia might have resulted at an earlier stage just as in the other cases, and that the tuberculosis resulted from infection due

to the caseous metamorphosis of the pent-up pus. Moreover, there were small abscesses in the liver in this case. This view was certainly the more hopeful of the two, because, if it be correct, early perforation of the tympanum might have prevented the subsequent development of tuberculosis. Affections of the middle ear as a source of pyæmia and tuberculosis are rare.—Dr. HILTON FAGGE thought a third view might be taken of the subject—viz., that the concurrence of the chronic otitis and the tuberculosis was accidental. He had seen little reason to support the view that acute tuberculosis was the result of infective inflammation, and comparable to pyæmia. He had seen and recorded several cases in which caseous disease of the lymphatic glands had occurred, spreading from gland to gland, apart from any general tubercular affection. Quite recently he had examined the body of a child only six months old, who had died of tubercular meningitis; the bronchial glands were caseous, but so were the abdominal, and he was thus driven to believe there was a diathetic state underlying the whole. So again, in a case of solitary tubercle in the brain, miliary tubercles were found massed in the upper part of the lungs, and not diffused through them, as they would be if there had been secondary generalised tubercle. Pyæmia leads to abscesses in the liver and lungs in the direct course of the circulation; not so tuberculosis. He fully believed, however, in the secondary dissemination of cancer. Multiplication without infection must be admitted, just as psoriasis or molluscum fibrosum may spread over the body from one starting-point. He did not believe there were any pathological conditions comparable to those produced by experimental inoculation of tubercle.—The PRESIDENT thought cases of pyæmia following inflammation of the middle ear were not so rare. He had recently met with a parallel case to those given by Dr. Weber, in a lady who died of pyæmia under like circumstances. He agreed with Dr. Fagge as to the relations between tuberculosis and chronic inflammation.—Dr. WEBER, in reply, said that Dr. Fagge had only quoted cases in which general tuberculosis accompanied or followed caseous deposits; it would have been more to the purpose had he cited cases of miliary tuberculosis where caseous foci were *absent*. Out of thirty cases he had met with but one such. It was then a striking fact that in a very large majority of cases there was an old caseous deposit preceding a sudden outbreak of acute miliary tuberculosis. The argument that in so many instances these chronic inflammatory products existed without general tuberculosis following could easily be met in the case of pyæmia, for which all acknowledge a primary focus of pus. Yet how often does a focus of pus exist without the supervention of pyæmia.

The meeting then adjourned.

MEDICAL SOCIETY OF LONDON.

AT the meeting on April 5th, Mr. H. Royes Bell, Vice-President, in the chair, Mr. HENRY SMITH read a very interesting case of a patient he had been called to see on March 3rd, and whom he found in the following state:—The scrotum largely swollen and the skin over the greater portion destroyed, as though by fire, with considerable redness and swelling extending upwards along each inguinal region, together with swelling in the perineum, but no mark or sign of a wound; the pulse was rapid, and there was general depression. It was ascertained, however, that the patient had fallen on the edge of a sofa, upon his perineum, a few days previously. The symptoms presented all the appearances of extravasation of urine, but no difficulty in making water was complained of, Mr. Smith being able to pass a large catheter easily into the bladder. Although there was no evidence of extravasation, Mr. Smith thought it best to make an incision into the perineum. This was done with the concurrence of another medical man, but nothing was evacuated except blood, though it gave relief. However, the symptoms went on increasing with great rapidity, extensive disorganisation of the scrotum and penis, with increased inflammation in the groins and side of the belly took place, and the patient sank six days after the slight injury, no urine whatever having come away from the wound. Mr. Smith concluded by remarking that the question was in this case whether it was one of injury to the urethra, or simply inflammation simulating extravasation.—A short discussion followed, in which Mr. ADAMS, Mr. HANWORTH, and Mr. TREVAN took part, the speakers being inclined to think there must have been extravasation, and referring the great disorganisation of the parts to the slight injury complicated with kidney disease.

Mr. LENNOX BROWNE read a paper entitled "Considerations on the Treatment of New Formations of Benign Character in the Larynx," in which he alluded to the fact that since the larynx had been brought fully under the control of the surgeon, operations had become more and more bold and frequent, and submitted certain propositions.

Dr. BRUNTON then read a very interesting paper on Accidental Concealed Hæmorrhage, which he illustrated with drawings. After pointing out how rare the disease was, and that no cases of it had been recorded for nearly ten years, he quoted a remark of Dr. Braxton Hicks that "the infrequency of concealed accidental hæmorrhage makes it the more important that every case which occurs should be fully reported." Dr. Brunton had met with four cases in his own practice, and had found details of a few more, and these, added to twenty-three gathered by Dr. Hicks, made a total of thirty-two. The author drew attention to the great mortality among the mothers—nineteen in the thirty-two—and to the fact that all the children were born dead. All his own cases had recovered, and this he thought due to his mode of treatment, which was not to rupture the membranes early, as recommended by every other practitioner. An analysis of the cases recorded showed that in nearly all those where the membranes were ruptured early death of the mother supervened. No doubt it was thought, he said, that early rupture of the membranes hastened labour, but this was a mistake, as everyone engaged in extensive midwifery practice knew. As long as the blood effused between the uterus, placenta, and membranes was detained there, of necessity there was a limit to the hæmorrhage, but as soon as the membranes were broken and the waters evacuated, there was relaxation of the hydrostatic conditions, further separation of the placenta, further bleeding, and great danger, if not death. The plan employed by Dr. Brunton was to rally the patient by stimulants, food, and rest until sufficient relaxation of the parts had taken place, to facilitate rapid, but not too rapid, delivery. Five cases were detailed, all successfully treated in this way. He then enumerated the diagnostic symptoms of accidental concealed hæmorrhage. 1. Sudden fainting, collapse, and blanching, continuing more or less till delivery. 2. The intense continuous stretching of the uterus, which the patient describes as "bursting." 3. The tense state of the membranes presenting. 4. The existence of all the symptoms of excessive bleeding without *external* manifestation by discharge of blood *ab utero*. After describing the causes of this separation of the placenta as being due to (1) spasm of the uterus, (2) subjective violence, as coughing or violent exertion, (3) direct external violence—the author reviewed the modes of treatment, affirming that his own plan was the one most likely to save the patient.—Time did not allow a long discussion, but Dr. GODSON said he had met with two cases of accidental concealed hæmorrhage, both of which were fatal. In one forceps and turning were employed; in the other the membranes were ruptured; but the fatal termination helped to bear out Dr. Brunton's theory.—Dr. HOPE (visitor) thought ergot useful, but was of opinion that the membranes should be ruptured without delay, with the continuous use of stimulants.—After Dr. BRUNTON had briefly replied, the meeting adjourned.

PRESENTATION.—The staff of the British Equitable Assurance Company presented to Mr. Thomas Carr Jackson, M.R.C.S., on Friday, the 9th inst., a valuable service of plate as a slight recognition of twenty years' professional service. Mr. W. S. Gover, the Managing Director of the Company, in making the presentation, stated that Mr. Jackson had been professionally connected with the office from its commencement, and that it would be difficult to overestimate his great industry and incredible painstaking. His labours had been submitted to the most severe tests with uniformly satisfactory results, and it only remained for him (Mr. Gover) to present the testimonial, and express an earnest wish that the happiness, usefulness, and valuable services of Mr. Jackson might be long continued.

THE LANCET.

LONDON: SATURDAY, APRIL 17, 1875.

THE dead-lock to which the attempts to establish a One-portal system for England have been brought by the recent action of one or other or both of the Royal Colleges may not be regarded very seriously by the licensing bodies of the kingdom. Some of them, we fear, will be inwardly gratified at the failure. The Scotch and Irish bodies have been rather scolded in the Medical Council, by having their backwardness in this matter put into unfavourable contrast with the forwardness of the English examining authorities, who, acting with public spirit, it was said, were ready to forget their individual interests and combine in accordance with the demands of public opinion and with the 19th clause of the Medical Act. They will be ready to taunt the English boards with boasting prematurely of their disinterestedness. Not only so; we fear that a large party in even the English bodies, which present such an unseemly spectacle of disagreement, will be made only happy at what seems likely to be a complete miscarriage of the Conjoint Scheme. It has been only too apparent that conjunction was attempted merely in deference to public opinion, and that in itself, to old corporations which have been in the habit of acting independently, it was simply detestable. For ourselves, we have to confess to little disappointment and not much more regret. We never believed in Conjoint Schemes. We were never able to understand or sanguine enough to believe that twenty bodies, with conflicting and complicated interests and independent histories and very touchy feelings, could coalesce. We have always believed such a consummation impracticable, and we have at least the satisfaction of those who foresaw what has happened.

Our object, however, is not to magnify our own foresight, but to ask—What next? Supposing this dead-lock to be final, are all things to continue as they were? Is the demand for a One-portal system which has been made for forty years to be abandoned, and are the "nineteen bodies" to go on competing with each other and dispensing their half-qualifications as if the absurdity of such a system had not been fully exposed? We propose to show why this cannot be the case.

Our first reason is, that the history of this question in the last few years is such that the most extensive stultification of public authorities must follow the abandonment of this great object of medical reform. Let us see what the authorities are that are committed to the unification of our licensing medical bodies. They are, first, the representatives of the Privy Council; secondly, the Medical Council; thirdly, a large number of the individual examining bodies; fourthly, the profession itself, through the British Medical Association and other media.

Nearly six years have elapsed since the famous letter of Mr. SIMON, written at the instance of the Lord President of the Council, set forth the unsatisfactory nature of the examining system. Mr. SIMON said:—

"His Lordship is advised that the Medical Act is seriously defective, as not providing for a satisfactory and uniform standard of admissibility to the Medical Register, and as not enabling the General Council to issue regulations in this respect. The state of the law in the United Kingdom (unlike that which obtains generally in Europe in the same matter) allows a minimum qualification in medicine, and a similarly minimum qualification in surgery; and it would seem that persons practising on those half qualifications are to be counted by thousands in the United Kingdom."

In the following year, 1870, Mr. SIMON, in a second letter, thus expressed the growing strength of the feelings of the Lord President on this subject. He said: "The Lord President's further consideration has greatly increased the misgivings with which his Lordship expressed himself on that subject" (the system under which candidates are at present admissible to legal qualifications for practice). In the following year, 1871, the Lord President's Bill was introduced into the House of Lords. How was it received by the Medical Council—which represents, only too faithfully and exclusively, the nineteen bodies? The Council, after discussing the Bill—the main provision of which was one for securing and enforcing the consolidation of the examinations for licensing practitioners,—by an almost unanimous vote, thanked the Lord President for the Bill, and expressed its approval of the same, making only a few suggestions for alteration. Previous to this, in 1869, the Education Committee of the Council, Dr. ANDREW WOOD being the chairman, said: "The time has now arrived when the Medical Council should endeavour to effect such combinations of the licensing bodies included in Schedule A as may form a Conjoint Examining Board for each division of the kingdom. We feel assured that the examinations for the licence will never be made satisfactory without, and therefore that it is for the public good to enforce it without delay." Is it conceivable that a measure so authorised can be quietly abandoned without a gross stultification of authorities more to be considered than the individual licensing bodies.

Let one other point be realised. It is very important to notice how Mr. SIMON'S, or rather the Lord President's, letters were called forth. They were written in response to the Council's request that Government would adopt or support a draft Bill which had been drawn up by the Council to amend the Medical Act, which we all know sadly needs amendment. His Lordship firmly refused to support any Bill to amend the Medical Act which did not provide a complete and satisfactory Examining Board in each division of the kingdom, and which would not end the system of half-qualifications. There can be no doubt that his successors in office will not abate one jot of this demand. There can be no amendment of the Medical Act which does not include the consolidation of the licensing authorities. In other words, this system of half-qualifications blocks the way of any amendment of an Act which is very faulty, and under which all sorts of quacks practise with comparative impunity. The Government of late has not interfered with this question, on the simple ground that the bodies were attempting to solve it spontaneously. It is high time that the Government was questioned as to any information it

may have of the success of these attempts, and, if it have no such information, as to its own intention of legislating on the subject.

THE debate on Puerperal Fever at the Obstetrical Society was opened by Mr. SPENCER WELLS in a paper of which we publish this week a full report. The time which Mr. WELLS had at his disposal was so brief that it could not have been expected of him to discuss the evidence for or against any one of the many views which have been entertained with regard to the nature of what is called puerperal fever; and he opened the debate by propounding a series of questions to be discussed without giving any definite answer to any one of those at least which relate to the etiology of the disease. Still, from the general tenor of his remarks and from his expressed opinion with reference to the value of antiseptics in the prevention of this affection, it appears evident that Mr. WELLS classes puerperal fever with pyæmia and septicæmia; for he believes that, by precautions similar to those inculcated by LISTER in his antiseptic method of treating surgical injuries, lying-in hospitals may be rid of puerperal fever just as general hospitals have been rid of pyæmia by those means. In so far as the discussion has taken place, those who have taken part in it have abjured rather than maintained the view, once generally held, that puerperal fever is produced by a specific morbid poison; and Dr. LEISHMAN, who until recently had been a supporter of that view, took occasion to make public the fact that he had renounced the opinions he once entertained, and had come to the conclusion that puerperal fever was generally of a pyæmic or septicæmic character. A great difficulty with some minds in accepting the contagious or infectious theory of the disease has been the fact that many women have been exposed to the poison of scarlet fever, measles, or of decomposing animal matter, &c., during the puerperal state, and yet have not become affected with puerperal fever, but have made a favourable recovery. Whatever be the value of this objection, there can be no doubt that a considerable number of the profession are led by it to discard the contagious character of the disease. The remarks of Dr. NEWMAN cannot fail as an effective answer to this objection; for he pointed out that there are certain conditions which favour infection with the poison in the puerperal, just as there are certain conditions which predispose to infectious or malarious diseases in the non-puerperal, state; and the causes of this predisposition in the puerperal state indicated by Dr. NEWMAN are the very same conditions which act in a similar manner in the non-puerperal—namely, exposure to sewer gas in badly-drained houses and depressing emotions. One other predisposing condition he named which is peculiar to the lying-in woman—the activity of the vital processes in the pregnant and puerperal state.

The well-worked-out statistics of Dr. BRAXTON HICKS bear strongly on the etiology of the affection, for in spite of the difficulty of tracing contagion in such a populous city as London, and especially amongst the poor, yet he pointed out that 89 or 90 per cent. of cases of puerperal fever could be traced to contagion from specific fevers or to decomposing materials in the uterus, thus leaving only 10 or 11 per cent. in which the cause was difficult to trace. We know but little of the action of contagium, septic matter, and decomposing animal matter on the blood when introduced into the body; but we do know that very important changes take place in that fluid in consequence of exposure to contagion, as in malignant small-pox, scarlet fever, &c., as well as in consequence of the introduction of septic or decomposing animal matter into a wound, or into a scratch received while performing an operation or a post-mortem examination. Whether the evil effects produced be due directly to the poison introduced from without, as is generally believed, or to the absorption of poison from the patient's own tissues, as Mr. HUTCHINSON holds is the case in septicæmia, or whether bacteria contribute in any way to the production of those fatal symptoms which frequently follow exposure to contagion or septic poison in the puerperal state, the question of importance is—Can these evil effects be prevented? In a large and populous city, where infectious disease is always present in some form or other, the lying-in woman not infrequently runs a risk of exposure to contagion. What are the measures that should be taken, and which would prove effectual, for her protection? Mr. SPENCER WELLS suggests antiseptics and general sanitary measures. It is difficult to see how antiseptics can be effectually applied in lying-in cases, seeing that in the event of the slightest want of care they are liable to fail in their effects in cases where they are easy of application. General sanitary measures have done much for the lying-in woman, for we do not hear now of such epidemics as those described by GORDON and ARMSTRONG; and they will yet do more when those reforms which are necessary to the health of our most populous districts shall have been perfected.

THE question of anæsthesia is one of great interest to surgeons and physiologists. Amongst recent researches on the subject it is important to mention those of M. BUDIN, of Paris. The conclusions at which he has arrived are founded on a large number of clinical observations and a great many experiments conducted during several months in the laboratory of Professor VULPIAN. As to the clinical observations, they were carried on in the wards of M. LÉON LABBÉ, at LA PITIÉ. Both experimental and clinical investigations have been lately published under the joint names of BUDIN and COYNE; the latter having aided M. BUDIN in his laboratory researches. The labours of these authors bear upon various points; but our space does not allow us to do more than notice the most important of them.*

The object of MM. BUDIN and COYNE was to investigate the state of the pupil (1) during anæsthesia under chloroform and chloral; (2) during the efforts of vomiting; and (3) during asphyxia. From their clinical and physiological observations they have drawn conclusions of much practical importance, which we will endeavour to sum up briefly.

The administration of chloroform produces in the situation

* For further information the following publications may be consulted:—"De l'Etat de la Pupille dans l'Anesthésie Chirurgicale"; par P. Budin. "Progrès Médical," Sept. 5th, 1874. "Communications à la Société de Biologie," Jan. 1875; par Budin et Coyne. "Archives de Physiologie," Jan. and March, 1875. "Gazette Hebdomadaire," March 5th, 1875.

of the pupil various modifications connected with the state of sensibility. During the period of excitement (when it can be ascertained) the pupil is dilated. When this period is passed the pupil contracts progressively, though it still retains its sensibility to excitement. Thus, during this period, in which anæsthesia is incomplete, the pupil is seen to dilate under the influence of various sorts of excitement exerted on the patient, who will then move about, groan, or utter cries. During the period of complete anæsthesia, on the contrary—or of profound surgical anæsthesia, in other words,—two constant phenomena are observed in the situation of the pupil: (1) absolute immobility; (2) a contracted state of the organ. There consequently exists a connexion between the absolute insensibility of the subject and contraction with immobility of the pupil; between the return of sensibility in the patient and dilatation with mobility of the organ. The condition of the pupil may therefore, so far as regards sensibility, serve as a guide in the administration of chloroform. During protracted surgical operations, when it is necessary to keep the patient in complete insensibility, anæsthesia must be conducted in such a way as to maintain the pupils constantly contracted and immovable. It is important, however, to remark, that although the state of the iris may serve as a guide for the management of anæsthesia, yet it does not make the surgeon aware of the imminence of danger; it is always the pulse, respiration, and general condition of the patient that he must watch over for any such intimations. Lastly, the efforts of vomiting may produce dilatation of the pupils, bring on cessation of insensibility, and awaken the patient; they partly destroy the effects of anæsthesia.

The greater part of these results had already been published in September last by M. BUDIN. They were sharply attacked by M. SCHIFF in *L'Imparziale* of Florence. According to M. SCHIFF all the results were erroneous. Chloroform produced, during complete anæsthesia, dilatation and not contraction of the pupil. All the practical consequences drawn from M. BUDIN's investigations were therefore declared to be false, and, furthermore, the administration of chloroform according to the manner advocated by the French author exposed the patient to almost certain death. This was speedily answered by MM. BUDIN and COYNE, who repeated SCHIFF's experiments, and showed that the Florence professor, by administering chloroform in a bag, produced *asphyxic anæsthesia*, and not *chloroformic anæsthesia*. The importance of these experiments renders some description of them indispensable.

That of M. SCHIFF is as follows. He injects chloral into a dog and obtains complete anæsthesia; the pupil is then punctiform. To the same dog he afterwards administers chloroform by means of a bag, and dilatation of the pupil is the result. When he withdraws the chloroform the pupil contracts; if he reapplies it the pupil again dilates.

The French investigators adopt a different kind of experimentation—dividing it, as it were, into two stages. First, they inject from one-fourth to one-half of a drachm of chloral into a dog; the pupil becomes punctiform. Chloroform is then applied in the open air (i.e., without being contained in any recipient), and the pupil still remains punctiform during the entire period of complete anæsthesia, carried on for one hour. This result, observed in the absence of every cause of asphyxia, is totally different from that obtained by SCHIFF. In a second experiment, they introduce into the windpipe of a dog an open canula provided with a cock. Three-fourths of a drachm of chloral are then injected into the femoral vein, and the punctiform pupil which attends total anæsthesia is the result. They then close the cock, and as asphyxia comes on the pupil dilates. They open the cock and the pupil contracts; they shut it again and the pupil dilates. Therefore *without chloroform* and with *simple asphyxia* they reproduce the results obtained by SCHIFF.

Other experiments of MM. BUDIN and COYNE show that asphyxia produces in the situation of the pupil different phenomena from those observed in chloroformic anæsthesia. In asphyxia there first exists an intermediate condition of the pupil, or one of moderate dilatation; then a most extensive dilatation when the convulsive phenomena make their appearance. Now it is very important, from a practical point of view, and as MM. SÉDILLOT and CLAUDE BERNARD have especially shown, to avoid a state of asphyxia; not that asphyxia immediately occasions death, but because it is certain that when phenomena of asphyxia exist at the beginning of chloroformisation syncope occurs much more readily.

Such are the principal points brought to light by MM. BUDIN and COYNE. Some of the results announced in their publications have already been confirmed; as, for instance, those recently mentioned by Dr. ALBERT BERGERON in his treatise on "Chloroform in the Surgery of Children," embodying researches carried on in the laboratory of La Charité. The others are left open to the elucidation which must result from further research.

Annotations.

"Ne quid nimis."

THE HAMPSTEAD HOSPITAL QUESTION.

THIS long-contested question has at last reached a stage at which there seems to be some probability of its receiving a solution. The matter appeared to have got into such a dead lock that we have contented ourselves with but slight reference to the course of the controversy of late, and must briefly refer to some of the latest developments. The subject was to have been brought before the House of Commons by Mr. Coope on April 9th, but he has postponed his motion on account of a change of attitude on the part of the Asylums Board. It will be remembered that two sites in Mill-lane have been offered to the Board, and considered ineligible by them (a full account of these will be found in our issue of February 6th). Since that time a third site, also adjacent to Mill-lane, and forming a part of a piece of ground recommended by us in the same article as particularly suitable to the purpose, has been offered to the managers through Lord George Hamilton, and was viewed by them on April 1st. At the same time the Committee of Residents has offered £26,000 for the present site, and the Hampstead Vestry have guaranteed to construct drains for the newly-proposed site if accepted by the Board. The matter was fully discussed at the meeting of the Board on the 10th instant, when, in addition to the above communication, a number of petitions and statements in opposition to

the suggested site were presented. One of these was from an inhabitant of Hanover-square, and stated that the site was near the open reservoir of the Junction Water Works Company, and that the erection of a fever hospital there would cause poison contagion to be carried to London; and a certificate, signed by Mr. Houghton, L.K.Q.C.P., made a similar assertion. The Board had thus a sufficiently difficult task set before it in deciding upon the opposing statements.

The discussion was opened by Mr. Galsworthy, J.P., who moved the reference of the subject to the General Purposes Committee for report. In a very sensible and temperate speech, Mr. Galsworthy, who has before strenuously resisted the attempts to influence the action of the Board, argued that the managers should reconsider the subject quietly and impartially, as the present site seemed to be a remarkably good one, and they would get out of the difficulty without monetary loss. The motion was seconded by Mr. J. G. Talbot, M.P., who pointed out that although their primary duty was to consider the sick poor, they should not neglect the interest of the neighbourhood when two equally eligible sites were available. And whilst stating that he had felt strongly that the Board would not yield to pressure, he justly remarked that obstinate firmness was even worse. Mr. Currie also expressed his opinion that the proposed site was far superior to that now occupied by the hospital, and he showed clearly that the Board would lose nothing by selling the present site for £26,000, since the land only cost £16,000, the other £10,000 having been spent in walls, permanent buildings, and drainage, whilst the other £25,000 which had been spent there was for sheds, which had fulfilled their use, and would not fetch £1000 now. The opposition to the motion was led by Dr. Cortis, who asked why the Board should be content with £26,000, when the site had cost them £51,000, and why the site should be changed on the ground of an interested and unscrupulous agitation. After some other objections, Dr. Cortis said that "it would be murder to place contagion so close to a water-supply." He strongly urged that the Board should not change its place to submit to the sentimental grievance of a few people. Mr. Shaw Stewart also opposed the motion, chiefly on the ground that it would be a bad precedent to yield to agitation. He urged the Board to resist the cajolery now attempted as it had resisted the abuse formerly levelled at it. Several other members spoke for or against the motion, which, upon a division, was negatived by a majority of 19 to 14. Mr. Currie, however, gave notice of his intention to make a further motion on the subject at the next meeting of the Board.

Thus the matter rests for the present, and we suppose that we shall yet be wearied by the tiresome controversy *ad nauseam*, unless Parliament steps in and cuts the knot. We must congratulate the Board on the change in the spirit in which the matter has been discussed, notwithstanding the majority still opposed to the change of site. The friendly intention of Lord George Hamilton may perhaps have been taken as an indication that the support of the Government could not be given to an obstinate refusal to reconsider the matter, and this may have decided some in their course. It is now impossible for the question to rest in its present state, and the opponents of the existing site will have themselves to thank if the turn of the tide in their favour does not carry them on to success. The strongly expressed opinion as to the advantages of the proposed site of some of those who formerly most strenuously resisted any change, is too significant to be overlooked, and there can be little doubt as to the view which would be taken by a Parliamentary Select Committee on the matter.

We have before fully discussed the relative merits of the various sites, and need not reopen the subject, but some of the objections to the present, especially those of Dr. Cortis, are so frivolous and absurd that we cannot refrain from noticing them. His objection on the ground of monetary loss had been fully answered in anticipation by Mr. Currie; and his statements as to the roads and distances will not be found to be borne out by the facts. But the statement that there would be danger on account of the vicinity to reservoirs is simply absurd. The only reservoir at all near is a completely covered reservoir constructed of brick and cement, and from the slope of the land quite out of the line of sewerage; and it needs but a moment's consideration to see that the idea of sewage percolation into such a reservoir, even with gross carelessness, would be chimerical. Any such danger is ten times more likely to occur from the neighbouring cemetery. But this is one of the idle statements made to excite a popular outcry, of which we have had so many in the course of this pattern agitation of the 19th century. We trust the Board will not be biased by any such foolish idea, but will yield to reasonable demands in time to save its dignity.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the meeting of this Society on Tuesday, the 13th inst., a paper was read by Mr. Acton "On the Comparative Prevalence and Severity of Syphilis among Troops in London, Paris, and Brussels," based upon inquiries instituted by him on a visit to the continent last autumn. There was a very full attendance of fellows and visitors, including a large number of well-known army surgeons, and the proceedings were continued beyond the usual hour. The conclusions arrived at by Mr. Acton were, briefly, that whereas in Paris and Brussels the troops enjoy almost a complete immunity from venereal disease, in London it is so prevalent that fully one-fifth of the whole garrison, or one battalion of men, suffered from primary syphilis during 1874. Contrasting this with the condition of the troops stationed at Woolwich, a "protected" district, he showed that there not only was venereal disease far less prevalent, but its type was much less severe there than in London. He contrasted also the extent and nature of syphilis among prostitutes, both abroad and in London and the protected districts. In the discussion that followed, Dr. Drysdale disputed Mr. Acton's statements as to the small extent of syphilis in Paris and Brussels; while Dr. Birkbeck Nevins, in a long speech, presented, as he thought, convincing facts that, with one or two exceptions, there had been an actual rise in the number of cases of venereal disease since the Acts were enforced in all the protected stations, both as regarded the home army and navy and Mediterranean stations. The remaining speakers were strongly in favour of the Acts, Inspector-General Lawson showing that Dr. Nevins's figures were fallacious from his only having compared isolated years, without taking the mean of terms of five years, and from his disregard of fluctuations which occur in the numbers often admitted from different regiments at the same place and time. Mr. Timothy Holmes stated that the passage in the report of the Royal Commissioners which referred to the lack of evidence of the benefit resulting from the Acts was inserted under a protest from a large minority, including all but two of the medical members of the Commission. Mr. Holmes also remarked upon the far greater value of the testimony of medical officers than of any number of statistics. Mr. Brodenell Carter corrected an impression conveyed by the speech of Dr. Nevins, that Dr. Balfour was still opposed to the Acts, by giving an account of a personal statement made to him by Dr. Balfour to the effect that the great results of the

working of the Acts had made him an ardent supporter, whereas formerly he was an opponent. Surgeon-Major De Chaumont showed conclusively the marked fall in the number of recorded cases among the Royal Engineers at Chatham, when the mean strength of the corps and the number of recruits are taken into account; and after a few remarks from other gentlemen the Society adjourned. There could be no question as to the side which had the best of it in the debate; indeed, a glance at the excellent charts exhibited on the walls of the room by Messrs. Lawson and De Chaumont to illustrate their remarks, was convincing enough in itself. The unusual pressure on our space compels us to defer the publication of a full report of this meeting until next week.

THE ARTISANS AND LABOURERS' DWELLINGS BILL.

THE House of Commons was in Committee on this Bill on Monday night, and a terrible amount of fruitless talk took place. Clause 7, which has reference to the carrying out of the important scheme by the local authorities, occupied the Committee "several hours," during which the Committee had to listen no less than seven times to Mr. Fawcett, who, apparently, has not the dimmest notion of the true object of the Bill. The miseries to which a large section of British citizens (Mr. Fawcett objects to class distinctions) are exposed, are, unfortunately, to be appreciated only by that sense which the talented member for Hackney unhappily lacks, and he may, therefore, be excused for the fogginess of his ideas, but he can hardly be excused for harassing the Home Secretary and the House generally, and obstructing them in a laudable attempt to improve the condition of some of his less fortunate fellow-creatures.

Some speakers seemed to fear that the local authorities, having gone through all the expense and trouble of the preliminary proceedings, and having cleared their building sites, would strike work, that London and other large towns would become dotted over with wildernesses, and that the displaced inhabitants would be in a worse condition than before. Mr. Torrens, on the other hand, seemed to be haunted by the fear that the provisions of the Bill would be utilised so furiously that our vestries and corporations would seek to emulate Baron Haussmann, and that boulevards or palaces would intersect Whitechapel and St. Giles's, that the poor would be driven to desperation, and that all the terrors of the Commune would result from Clause 7. Both these fears belong to the nightmare order of facts, and this being apparently the opinion of the Committee, Clause 7 emerged from the battle which waged around it pretty much as it went in.

An absurd attempt to further obstruct the Bill by hampering it with a clause for the prevention of the liquor traffic in any of the buildings to which it might give rise, happily proved abortive. Sir Wilfred Lawson and others seemed to think that no dwelling could be healthy that was within sight of a public-house, and seemed to ignore the fact that in London and other large towns it would be simply impossible to erect a house that should not be within easy reach of a gin palace. Further, he appeared ignorant of the fact that what drives the poor to drink as much as anything is the miserable accommodation in the way of houses, and the impossibility of their becoming acquainted with home comforts or enjoyments. It is this which drives the poor in search of unnatural excitement out of doors, and which serves in a great measure to fill public-houses, temperance-halls, evangelistic mission-rooms, or any other place where they can be accommodated with a seat, and be kept warm and amused.

ST. THOMAS'S HOSPITAL.

WE recorded last week the melancholy death from typhoid fever of Mr. Frederick H. Peck, an able and distinguished student of St. Thomas's Hospital. It appears that Mr. Peck had been ailing for some weeks past, and that he had felt it necessary to retire into the country for a few days. He, however, soon returned to town, and unfortunately undertook the onerous duties of dresser of the week at the hospital. But before his term of office expired he was taken ill of typhoid fever, of which he ultimately died. Although there is perhaps no positive evidence that Mr. Peck contracted his illness in the hospital, it must be confessed that the sanitary condition of the hospital is far from being satisfactory. Within very few months several cases of typhoid have occurred among the non-medical residents, and there have been one or two instances in which there were some grounds for suspecting that even patients contracted typhoid while resident in the hospital. Whether these suspicions be well founded or not we do not at present propose to discuss, but we feel that we ought not to allow this opportunity to pass without protesting against the heartless and parsimonious manner in which the medical residents of the hospital, especially the clerks and dressers of the week, are treated. The small, cold, dirty, dingy, cheerless rooms, situated at the top of the building, are made to fulfil the double function of bedrooms and sitting-rooms for the clerks and dressers. These rooms, which can only be reached by ascending more than eighty steps, are meanly and wretchedly furnished with a common chiffonier bedstead, a deal folding washstand, a chest of drawers, and a small table. The room occupied by the dresser of the week is perhaps the worst. The common gas bracket is placed about fourteen feet from the fireplace; so that, on cold evenings, it is necessary, in order to read, to sit near light, and far from the fire. To make the post of dresser of the week as irksome and degrading as possible, it has been determined by the powers that be that the room shall be placed nearly two hundred yards away from the casualty-room, to which the dresser is liable to be summoned some twenty times a day;—all this, mark, over and above the eighty steps. It will seem wellnigh incredible that the authorities of this extravagantly-managed hospital, in which the non-medical residents and porters are furnished with large, commodious, and well-ventilated rooms, and, in some instances, elegant with *suites* of apartments, should begrudge its overworked resident medical staff a common room and library to which they might retire during the day, in the intervals of toil, instead of compelling them to seek repose and quiet in the cheerless rooms in which they have slept all night. The inconsiderate hospital authorities even carry their niggardliness to the extent that they refuse to purchase for the residents the ordinary periodical journalistic literature of the day. This is subscribed and paid for by the residents themselves. Surely there is "something rotten" in the state of St. Thomas's.

CONFLICTING PROFESSIONAL TESTIMONY.

THE original framers of the Adulteration Act never imagined that one operation of the statute would be to show the extreme fallibility of persons claiming to be scientific men. When the Act came into force, and fraudulent vendors of articles came to be prosecuted, the most startling discrepancy of chemical evidence appeared to be inseparable from every case in which an attempt was made to obtain a conviction. If Mr. A certified that the suspected sample was adulterated to an extent that warranted the fullest penalty of the law, Mr. B immediately came forward and affirmed that the article was of the purest quality. To

ourselves these cases of conflicting testimony have been a source of humiliation, while the wide publicity given to them in the newspapers must have lowered the opinion entertained by the public of what are termed "experts." The last case of this description was one tried at the Marlborough-street Police-court a few days ago. A mineral-water manufacturer living in Whitfield-street, St. Pancras, was summoned for permitting the offensive discharge of mineral waters and the deposit of the residue from the manufacture of aerated waters to flow into the sewers, thereby causing a nuisance. For the prosecution, Dr. Stevenson, of Guy's Hospital, stated that he had examined the "stuff" taken from the sewer, and that the action of sewage over this refuse ultimately led to the liberation of sulphuretted hydrogen, a poisonous gas. In addition also to its deleteriousness from chemical decomposition, the refuse acted mechanically in retaining the sewage. On the other hand, Mr. Wanklyn deposed that the soda-water refuse, so far from giving off noxious gases, played the *rôle* of a disinfectant. The two analysts thus gave evidence diametrically opposed one to the other. Dr. Stevenson is supported by the inspector of nuisances, who said that it made the workmen giddy to stand over the product, and one flushman was killed outright on entering the sewer. The magistrate was naturally puzzled, but in the end decided to rely on the evidence for the prosecution, and ordered the nuisance to be discontinued. How may such difference of opinion as that we have described be prevented? The only remedy we see is for the Government to appoint a few skilled, well-paid analysts, whose duty it will be to act as assessors to the judges presiding over such trials, and to whose final decision all disputes shall be submitted.

MEDICAL OFFICER OF HEALTH FOR CAMBRIDGE.

So Cambridge at last is to have a medical officer of health. But this concession to public opinion has not been obtained without considerable effort. In January, 1874, we pointed out how disgraceful it was for a town where such important interests were concerned to be without such an officer. Our remarks apparently were not without effect, for the week after our article appeared a letter was addressed to the Cambridge Sanitary Authority by the Local Government Board desiring them to proceed forthwith to the election of a medical officer of health. The sanitary authority, as is usual in such cases, agreed to take the letter from the Board "under consideration." Some months later, the matter being still "under consideration," the Board again addressed the Sanitary Authority, who then proceeded to discuss the question, and passed a resolution that it would be advisable to appoint an officer of health at a salary of £250 a year, with liberty to practise in the town. As more than nine months have elapsed since this resolution was arrived at, and as no action had been taken in the matter, the Local Government Board has addressed a third letter to the Sanitary Authority, exactly fifteen months after the issue of their first mandate, desiring them to elect a medical officer of health forthwith. Accordingly last week the Sanitary Authority again met, and, after considerable discussion, agreed that the resolution passed nine months previously should now be carried out, and that an advertisement should be inserted in THE LANCET desiring candidates to send in their testimonials, and stating that the election would take place on the 11th of May. We cannot conceive why the Sanitary Authority have so long resisted the recommendation of the Local Government Board in this matter. It was evident from the first that a medical officer of health must be appointed sooner or later, and the authorities had a year ago the opportunity of conferring a considerable benefit on the town almost of their own free will; now the action has the appearance of being made under considerable pressure, and yielded grudgingly and of necessity. Up to the very last, however, opportunity was afforded the Cambridge Sanitary Authority for doing a graceful as well as politic act. Mr. Hamblin Smith, of Caius College, who we have always noticed as advocating a liberal policy at the meetings of the board, proposed that the salary of the officer of health should be £500, and that he should devote himself entirely to the duties of his office. This sum at first sight may seem inadequate. It must be remembered, however, that ere long a Professorship of State Medicine must be established at the University, and that the medical officer of health, if a highly efficient man, would have a great claim on the University for this appointment. Supposing the University added £300, considering the position such a professor would hold, we are sure that many eminent men would have come forward for the appointment. But the opportunity is now altogether lost. At the motion of Mr. Fawcett, a medical practitioner in the town, the reduced salary was agreed to, with the permission to practise in the town. We hope that a man of such merit will be found to apply for the post that even the Sanitary Authority of Cambridge could not refuse him.

THE LATE SIR JOHN GRAY, M.P.

WE regret to record the death of Sir John Gray, M.P., one of the few medical members of the House of Commons. Sir John was the son of Dr. Gray, of Clare Morris, county Mayo, who, conjointly with Dr. Atkinson, a Dublin surgeon, was proprietor of the *Freeman* newspaper. He was educated at Trinity College, Dublin, where he took a medical degree. Early in life he tasted the sweets of political agitation, and became editor of his father's paper. He was included with Daniel O'Connell in an indictment charging them with a conspiracy to bring law and authority into contempt. He was imprisoned. Educated as a Protestant, Sir John adopted and promulgated Roman Catholic principles, Home Rule, and other Irish views with much Irish energy and ability. Such an exciting history naturally led his mind away from medicine; but he took much interest in the efficiency and reputation of the profession. Four or five years ago he moved for returns as to the number of persons passed and rejected in the last five years by the different medical licensing bodies, the cost of their diplomas, &c. About the same time he brought in a Medical Bill which proposed the institution of an examination in clinical subjects by a body independent of the existing examining bodies. He was a prominent member of the corporation of the City of Dublin, and was the author of the Vartry water system for the city. For this he was knighted by Lord Carlisle, in 1863. He was genial and kind in his manners, and, take him for all in all, there are members of the House who, with all his crotchets, could have been better spared than Sir John Gray. His death, which occurred at Bath, was caused by Bright's disease.

A GOOD OPENING LOST.

So little is the profession alive to the good things that go a-begging, that the famous opening at Worle, Somerset, which we described last week, has actually been lost. Notwithstanding that the guardians have twice advertised for an enterprising medical man to undertake Poor-law duties among a population scattered over 5000 acres of ground, once at the munificent remuneration of £30, and again at £40, yearly, not a soul has nibbled at the tempting bait. Some of the guardians have actually laughed at the dilemma in which their board was placed by this insensitiveness of the profession, and one of them is so hardened as to express

the opinion that it was an insult to offer a gentleman even £40 for the amount of work required from him. Others, however, appeared to see in this insensitiveness a painful want of sympathy for the interests of the poor. The chairman especially has been strongly affected by the "wrong conduct" of the late incumbent of the post, Dr. McClure, in resigning his appointment after a few weeks' experience of it, merely because he was underpaid. "If," he said, at a recent meeting of the guardians, "he had studied the interests of the poor for twelve months, and then found the work heavier than he anticipated, and represented that to the board, they would have given an increase with more graciousness"; whereupon a guardian blurted out words to the effect, "He didn't believe it," and others were not prepared to accept the novel principle that it was the Poor-law doctor's peculiar province, not the province of the guardians, "to study the interests of the poor." However, the guardians at this meeting were in a difficulty. Outsiders were not to be tempted with £40 a year. Of insiders there was but one, the recalcitrant Dr. McClure, and he would not accept anything less than £50 yearly as a condition of taking the post again. There was no doctor; if sickness were to happen to a pauper, followed by death, there was the terrible spectre of the coroner. Not a few of the Axminster guardians were disposed to do a right thing simply because it was right, and were prepared to vote for a salary reasonably proportioned to the amount of work required for it. But this feeling would hardly have sufficed to lead the board to the conclusion it ultimately came to unless supplemented by the fact that it had no choice in the matter, and was influenced by the fear of the coroner. In the end it was decided to ask Dr. McClure to resume the appointment of district medical officer at a salary of £50 a year.

INVALID'S PORT FOR WORKHOUSE INFIRMARIES.

AT a recent meeting of the Liverpool Select Vestry a discussion took place respecting the quality and price of port wine that had been recommended by the Finance Committee to be purchased for the use of the sick paupers in the workhouse infirmary. The contract price of this wine was £16 per pipe, and it was stated that the price in the rejected tenders only reached £28 per pipe. Now, it is well known that a pipe of wine is somewhat of an unknown or variable quantity, but one of the vestrymen, who took exception to the recommendation to purchase port wine at this price for sick people, although they might be paupers, informed the meeting that £16 a pipe was equal to about 10*d.* a bottle! Although, to their credit, many of the vestrymen expressed an opinion that if wine were necessary for the workhouse patients, it ought to be good sound wine, and that milk would probably be better than port wine at such a price, it is to be regretted that the matter under discussion should have been treated rather as a joke. Two of the members of the Finance Committee explained that the selection had been made without a "previous knowledge of the price, and that the lowest priced wine was selected as being the best." This statement produced some laughter, which was increased when another vestryman remarked that on one occasion he had, in consequence of feeling a little faint, tasted a drop of the port wine supplied to the workhouse patients, and that he did not recover from its effects for the remainder of the day. The chairman deprecated the proposition to refer the matter to the Finance Committee, and the proposer, after a jocose allusion to the chairman being considered a connoisseur in wine, consented not to press his motion, the result being that the Liverpool sick poor will be dosed with port at 10*d.* a bottle. It seems somewhat remarkable that it did not strike the Liverpool Select Vestry that it would be advisable to ask the opinion of their medical officer as to the quality of this port wine for the use of his patients. The wine has since been analysed, and has proved to be an "intermediate" between port and claret.

THE NEW PEABODY IMPROVED DWELLINGS.

IN a paper recently read before the Statistical Society "On Improved Dwellings and their Beneficial Effect upon Health and Morals," it was stated that the average annual rate of mortality during the eight years ending 1874 in the improved dwellings erected by the Metropolitan Association for Improving the Dwellings of the Industrial Classes did not exceed 14 per 1000, whereas the average rate in the whole of London during that period was 24 per 1000. Even after making full allowance for any disturbing element in the ages of the occupants, this result is a very remarkable one, and assumes a greater importance when it is remembered that more than 5000 persons are now living in the dwellings of this Association. Bearing these facts in mind, the opening of fourteen new blocks of Peabody Buildings, on the 2nd inst., for the accommodation of 352 families, in Stamford-street, Blackfriars, is well deserving of notice. It is satisfactory to hear that there were more than 600 applications for the 352 tenements, which consist of three, two, and one rooms respectively, at rents ranging from 5*s.* 9*d.* to 2*s.* 9*d.* The site was undoubtedly well chosen, and it is to be hoped that the new dwellings will to some extent attract the inhabitants from the now overcrowded "rookeries" which abound close to the Strand, in the district of St. Clement Danes, where the rate of mortality, especially among infants, is so very high. It is to be feared, however, that the toll on Waterloo-bridge will be a drawback to those whose work lies north of the Thames. It is stated that the whole of the tenements are let, and that the tenants, probably to the number of 1500, are all to be in possession by the 12th inst. These dwellings stand upon about two and a half acres of ground, so that the inhabitants will be living at the average density of 600 persons per acre; this density, however, it has been proved is not, in improved dwellings, injurious to health, whatever it may be in dwellings of the "rookery" class.

ACTION OF EMETICS.

M. DE LA CHOUPPE, in the *Archives de Physiologie* (No. 1, 1875), gives the results of a series of investigations he has undertaken in regard to the action of ipecacuanha, tartar emetic, and apomorphine, which are as follows:—The mode of action of the most commonly used emetics is not identical, and if the phenomena accompanying or preceding the emetic effect be carefully and intelligently examined very considerable differences will be found to exist. Ipecacuanha and its alkaloid emetine, in whatever mode they are introduced into the system, invariably cause vomiting by direct irritation of the terminal filaments of the pneumogastric nerves in the mucous membrane of the stomach. Tartar emetic and apomorphine have a double action, for they affect the gastric mucous membrane on the one hand, and the medulla oblongata on the other. But there is a difference even between these two drugs, for the tartar emetic acts more rapidly on the stomach than on the medulla; whilst apomorphine acts more rapidly on the nervous centres than on the gastric mucous membrane. The best proof that can be given of this is that emetic doses of tartar emetic require to be larger when this substance is injected into the veins than when it is introduced into the stomach; whilst in the case of apomorphine the maximum effect is obtained by injection into the general circulation.

BILL FOR THE MEDICAL REGISTRATION OF FOREIGN LADY GRADUATES.

THIS is a most womanish attempt at legislation, having to it the names of Mr. Cowper-Temple, Mr. Russell Gurney, and Dr. Cameron. It is worthy of that millennium to which some think we are coming, when the work of Parliament will be done by women. It is a Bill to amend the Medical Act so far, and so far only, as to enable women to register who have taken the degree of Doctor of Medicine in a foreign university. But why women only? Why not men who have taken the degrees of the favoured universities—viz., of France, Berlin, Leipsig, Berne, Zurich? Shall we admit women by a Bill this year, and men by another Bill next?—or are girl-graduates to be admitted, and men with foreign degrees excluded? And why limit the admission to the graduates of these universities? Surely the gentlemen whose names are appended do not think that a great Act of Parliament is to be amended in this piecemeal way, or that the great question of the admission of women to the profession is to be disposed of by admitting them through foreign examinations over which our Medical Council has no control. The present law is that only those possessed of British diplomas can be registered. If foreign doors to the Register are to be opened, it will have to be after much more mature consideration of the whole question than to all appearance has been given to it in this Bill.

ON FASTING.

OUR contemporary the *Pall Mall Gazette* has some judicious remarks on the practice of undue abstinence from food over a long period, especially in the case of weakly people and young girls. We entirely agree that such a practice, too rigidly and too long observed, is fraught with risk. At the same time, we are disposed to think that the sin of the church and of religious people of late has not been in the direction of fasting, so much as in that of the old and classical form of "inabstinence." Partly from the prevalence of exaggerated notions of the amount of food requisite to maintain nutrition, and partly from having too much money to spend, we have all, even Catholics, been pretty innocent lately of hurting our bodies by plain living. Even Friday's dinner has not escaped "luxury's contagion." A fish dinner once a week would bear to be judged by physiological as well as by religious tests. And so would a dinner destitute of those various wines which to so many people seem essential to a meal. Better still probably would be a diffused moderation throughout the week, such as might be represented by a fish or a wineless dinner once in seven days.

EFFECTS OF RESPIRATION OF PURE OXYGEN ON TEMPERATURE AND CIRCULATION.

MM. NAOUMOFF and BÉLIAIEFF have been making observations on the effects of the respiration of pure oxygen gas on man and animals, in the University of Kasan. They find that in man the respiration of oxygen for short periods, as for seven and seventeen minutes, produces no appreciable effect either upon the temperature of the body generally or upon the pulse. In their experiments on animals (dogs), they made them breathe alternately, by means of a simple apparatus, air drawn from a sac containing ordinary air and pure oxygen from another sac for half an hour or more, and it is remarkable how very slight the effects produced were. The temperature rose occasionally, and somewhat doubtfully attributable to the influence of the gas, a few tenths of a degree, and on one occasion 1° C.; whilst in other experiments there was slight increase in the rapidity of the passage of blood through the capillaries. From these results it would seem that the employment of the inhalation of oxygen gas for the cure of thoracic disease of various kinds is of more than doubtful efficacy. A feeling of warmth in the chest was sometimes experienced.

THE SEAMEN'S HOSPITAL.

THE authorities of the Seamen's Hospital have forwarded to us an appeal which has been addressed to the charitable public, but which does not appear to have met with much sympathy or attention from the daily journals. We have always advocated the claims of this hospital to a due share of support, and have pointed out very often and very emphatically that the Society, though housed in Admiralty buildings, receives no financial aid from the Government, and is by no means, as some suppose, a foster-child of the Admiralty. It has worked and won its way with the public up to the present time most successfully, and as we have very lately indicated, the present agitation about ships and seamen should give an impetus to *Dreadnought* subscriptions. Our contemporary the *Pall Mall Gazette* has on several occasions said a good word for this institution, and we are sure that *The Times* and other daily journals are equally glad to lend a helping hand to this hospital, which has been a temporary home as well as an infirmary for sick seamen arriving in the port of London during the last half century.

DR. MONSELL.

WE have received some details in connexion with the fatal accident which lately befell Dr. Monsell, one of the Queen's chaplains. While standing on a stone in the interior of a church now in course of erection in Guildford, he fell and fractured his arm, the bone at the same time being dislocated at the shoulder. He was immediately attended by Dr. Stedman, who reduced the dislocation, and set the broken arm. He went on fairly well for a time, but his age, sixty-four, militated against his recovery from such injuries as he had received. Great constitutional disturbance was soon manifest, with a very feeble action of the heart, by which it appeared he had received something more than a shock. Sir James Paget saw him and diagnosed the detachment of an embolic clot, which had entered the circulation. On Friday last severe vomiting and syncope came on, and he died in the course of the day.

SIR HENRY THOMPSON.

WE understand that Sir Henry Thompson has resigned his appointments in connexion with University College and Hospital. We are glad to learn, however, that the connexion with these institutions with which his name has been so honourably associated has not been altogether severed, the Council of the College having appointed Sir Henry "Emeritus Professor of Clinical Surgery," and he has consented to give a short course of lectures in the hospital once a year, probably in the autumn, as heretofore.

ANOTHER STARVATION CASE IN PRISON.

IT is not pleasant to have to notice another instance of a prisoner dying in prison, again of congestion of the lungs, shortly after complaints of insufficient nourishment. This was the case of Wm. Mills, of the Portland Convict Prison, who on the 24th of March asked for extra food, and who died shortly afterwards of inflammation of the lungs. The prisoner seems to have been at fault in not sooner making his sickness known; but the evidence showed a very circuitous system of meeting the pangs of hunger. If the medical officer recommends an extra allowance of food, on medical grounds, to a patient not in the infirmary, the recommendation is sent to the directors in Parliament-street!

who of course would know all about the nutrition of William Mills or any other convict in Portland Prison! But, alas! while the grass is growing the horse is starving. This and the Jersey case will, it is to be hoped, make prison authorities a little more careful as to the food and warmth of those who are at their mercy.

A HINT FOR THE WAR MINISTER.

IN the Royal Warrant for the army chaplains that has just been published, we notice that one of the clauses lays down that retirement shall be compulsory at sixty years of age. If this be considered expedient in the case of a chaplain, it should surely be so in the case of an army doctor, whose duties must, we imagine, be held to require more physical vigour for their proper performance than those of a clergyman.

IT is hoped that the epidemic of enteric fever which prevailed in the West Riding Prison—one of the largest prisons in the country—has now exhausted itself. The total number of prisoners attacked was 60: 44 men and 16 women. In addition to these, 9 of the officials had suffered. The gravity of the outbreak is shown in the fact that altogether 17 persons died of the epidemic, including two members of officers' families. The mortality from other causes has for some time been in excess of the rate prevailing in similar buildings. At the present moment there are double the usual number of prisoners under medical treatment, many of them suffering from diarrhœa. The water-service has been examined, but no defects sufficient to account for the marked unhealthiness of the prison could be discovered. The authorities have improved the dietary scale of the prisoners, and lessened the amount of work imposed on them.

A DEATH during the inhalation of ether occurred last week in the Manchester Workhouse. The patient, a youth aged sixteen, was undergoing a slight surgical operation at the hands of Dr. Hardie, medical officer to the workhouse, who had previously operated twice on him, on both which occasions he had been placed under chloroform. He bore this anæsthetic so badly that in the present case it was decided to give him ether. Soon after the administration was commenced alarming symptoms were developed, and in spite of the application of the galvanic battery, aided by artificial respiration, the patient died. At an inquest held on the body a verdict was given, in accordance with the medical testimony, of "Died from syncope."

WE understand that Mr. D. B. Balding, F.R.C.S., is a candidate for the appointment of coroner to the Royston division of the county of Hereford. It is hardly necessary to insist on the duty devolving on the profession in the district to support the candidature of their *confrère*. We trust the result of the contest will give us one more medical coroner.

MR. ALDERMAN JESSOP, of the firm of W. Jessop and Sons, has laid the people of Sheffield under a deep debt of gratitude. He has given the large sum of £12,000 for the erection of a new hospital in the town. We understand that such a hospital as that shortly to be constructed with Mr. Jessop's gift has been needed for a long time.

MR. JAMES DEWAR, Demonstrator of Chemistry in the University of Edinburgh, and at one time assistant to Professors Playfair and Tait, has been elected without opposition to the vacant Jacksonian Professorship of Experimental Philosophy at Cambridge. The stipend of this office is £500 a year.

THE task of diminishing the amount of overcrowding in St. Pancras Workhouse seems to be a hopeless one. In spite of all the strictures that have been passed by the medical and lay press on the mismanagement of the house, nothing appears to have been done to reduce the evil. At a recent inquest held on the body of a female pauper, Mr. Hill, the resident medical officer, stated that the deceased slept in what was termed a "cellar" bedroom, which had been certified by the Local Government Board as fit to receive fourteen persons only. The guardians, however, do not pay much attention to any advice emanating from Gwydyr House, and for a long time they have kept twenty females sleeping in the ward in question. Mr. Hill believed that the deceased's death was accelerated by the vitiated condition of the atmosphere which she breathed, and the jury attributed the death primarily to the impure state of the ward.

WE are informed that the Society of Apothecaries intend to institute, during May and June next, at their Hall, a limited course of lectures on State Medicine. These lectures will be delivered by Dr. De Chaumont, Assistant Professor of Hygiene at the Army Medical School at Netley.

THE Medical Acts Amendment (College of Surgeons) Bill was read a second time in the House of Commons on Wednesday evening.

REPORT
OF
The Lancet Sanitary Commission
ON THE
CONDITION OF FOLKESTONE.

SINCE Folkestone was selected by the South-Eastern Railway Company as the chief port for carrying on their continental traffic, it has rapidly grown in public estimation, and has become a favourite and fashionable watering-place. The medical profession have also regarded it favourably, and a considerable number of persons suffering from chronic affections are annually recommended to reside there. Dr. Bright early recognised the many natural advantages of its site and soil, and passed much of his time there during the later period of his life. The visitors' books at the principal hotels also show that many of our leading physicians and surgeons patronise Folkestone as a pleasant place to spend a day or so in occasional respite from their labours. The climate of Folkestone is mild and genial, yet bracing. The newer parts of the town and the favourite promenade face almost due south, and are well sheltered from the north-east winds. The soil is dry and sandy, and the natural drainage consequently good. Folkestone has always been considered extremely healthy, and in the last decennial return of the Registrar-General it stands amongst the foremost of the watering-places in this respect. We were therefore surprised to learn that a report had been circulated to the effect that scarlatina and fever were never absent from certain parts of the town. It is true that this statement is only meant to apply to certain localities in the town; still no medical man would think of recommending a watering-place in which scarlatina and fever were known to be endemic, however isolated the localities. For the public interest, therefore, as well as in justice to the town itself, we have thought that the actual sanitary condition of Folkestone should be subjected to an impartial inquiry, the result of which we now give our readers.

Folkestone, like most other watering-places, consists of an old and a new town. The former is situate in the valley

and on the slopes of the two hills which enclose this valley. On the western slope are congregated the principal shops; on the eastern, the dwellings of artisans, boatmen, fishermen, &c. It is in this quarter that fever was stated to be prevalent, and of which the "Narrows" may be taken as typical examples. The new town is built on the summit of the western hill, with the exception of the Pavilion Hotel and a terrace of houses built at its base, and stretches away westward in the direction of Sandgate. This part is almost entirely new, and the houses are well constructed and fitted with all requisite conveniences.

Some years ago the drainage of Folkestone must have been exceptionally bad, for the brick drains, ill-constructed, pervious, and unventilated, coming from both sides of the town, united in the valley, and emptied themselves in the Pent Stream, and thus the whole drainage was poured into the inner harbour, which consequently was very offensive. But as the town grew in favour as a watering-place, the South-Eastern Railway Company, in conjunction with the local sanitary authority, put an end to this nuisance by constructing an intercepting sewer, which carried the town sewage away from the Pent Stream eastwards behind the forge works of the South-Eastern Railway, and discharged it directly into the sea, at a considerable distance from the habitable portion of the town. Owing to the nature of the currents, none of the discharged sewage can find its way round the harbour to the front of the beach. This fact we tested ourselves by rowing to the mouth of the outlet and then allowing the boat to drift and following the course of the currents. The outlet ultimately is to be carried still further eastward. The old brick drains are now nearly all replaced with glazed earthenware pipes laid and fitted with concrete and furnished with charcoal ventilators. We think the ventilation might be increased with advantage, as, owing to the inequality of the levels, the pressure of the sewer-gas in the sewers must be very great at some points. In some parts of the town air-shafts are used, but the inhabitants appear to have an objection to the employment of these, or else the surveyor would put up more. This is a foolish prejudice on the part of the objectors, who ought to prefer having the sewer-gases let out into the open than forced up into their houses. In order to prevent the forcing back of sewage and sewer-gas from the intercepting sewer by the pressure of flood-tides or easterly winds, the surveyor has placed flap-valves at the discharging points of the main town-drains, and a small—it should be larger—air-shaft near the outlet of the intercepting main. The Pent Stream, now free from sewage, still discharges itself into the inner harbour, and by holding up the water for some time and then freeing it, considerable flushing power is obtained, which keeps the harbour sweet and clean.

Folkestone is supplied with water by a private company. The water is obtained from four wells sunk through the clay into the greensand, and from springs arising from the base of the neighbouring hills. The water from both sources is naturally good. The water is stored in two uncovered reservoirs capable of holding 7,500,000 gallons. Dr. Frankland has pointed out that by storage in the open reservoirs the water contracts a marked amount of organic impurity. This may be accounted for by the fact that no fence of any kind protects the reservoirs from public access, and that some cowsheds and two houses are situate in their vicinity. Moreover, it is a well-known fact that hard spring or well water deteriorates rapidly in open reservoirs. We think the corporation, in the interests of the town, ought to carry out Dr. Frankland's suggestion and cover in the reservoirs. But the worst feature in the Folkestone water-supply is that it is intermittent. The danger of an intermittent water-supply has been fully shown by the recent outbreak of enteric fever at Lewes. Passing one of the stand-pipes in the street we heard the usual hissing noise that intimates the mains are being charged, and on turning the tap a gust of air issued, which would have been sufficient to extinguish a candle. Now this air must have entered the empty main at some part of its course after leaving the reservoir, and if air could enter, so also could sewer-gas or even sewage matter, and thus contaminate an originally pure water in the course of distribution. The town authorities ought at once to set about securing a constant supply. The increased cost would be amply compensated by the additional security afforded against the possible distribution of enteric fever if imported into the town. The loose sandy soil of Folkestone, which readily permits the percolation of liquid matter, is another argument to enforce the necessity of such a supply.

We now proceed to describe the condition of the dwellings in the poorer parts of the town, and for this purpose we visited the "Narrows." These consist of blocks and congeries of cottages winding in and out, situate nearly at the highest point of the eastern slope of the town. They are for the most part two-storeyed dwellings, constructed of brick or stone. They are drained, and are supplied with the town water. They have closets, one to about every six houses. The courtyards are paved with brick, and seem dry, but are filthily dirty. We saw human as well as canine excrement lying about, and the gutters were unswept and full of decomposing animal and vegetable refuse. The interiors are for the most part very unsavoury. They are inhabited by the lowest class of the population, chiefly Irish. The houses seem well constructed and substantial, and we do not think the proprietor is altogether to blame for their present state. We believe, if the inhabitants would exert themselves, and keep the tenements, closets, yards, and gutters clean, the "Narrows" might be made fairly presentable and above the average of such cottages. In their present state they are disgraceful, and might become a source of danger to the town; if fever were prevalent, there can be little doubt that the outbreak would be greatly intensified in this quarter.

But the remedy for this state of things ought to be easy. The sanitary authority should direct their inspector of nuisances to pay frequent visits to this locality, and prosecute the conspicuous offenders against decency and cleanliness. If, three hundred years ago, the Court Leet of Stratford-on-Avon were able to fine Shakespere's father for depositing filth in the public street and neglecting to keep his gutter clean, surely no difficulty ought to be experienced in this age of sanitary enlightenment in enforcing the same wholesome discipline. The proprietor might, however, with advantage, add some more closets, though we must say that the tenants do not appear to make much use of the present ones, except as ashbins; still if there were one to every two houses the inhabitants might feel more personal responsibility. We were glad to see that the medical officer of health has prudently closed a well in this quarter, and thus shut off a source of considerable danger.

In conclusion, we would say that the bad condition of this quarter depends more on the class of people who inhabit it than on any fault in the construction or sanitary arrangements of the dwellings themselves. Folkestone, we are glad to say, has enjoyed for some time considerable immunity from zymotic disease. During the years 1873 and 1874 there were four fatal cases of fever registered. On looking over the register for the first quarter of this year we noticed one death from enteric fever, which occurred in January. The death-rate for the decennial period 1861–70 was 16·4. This compares favourably with other watering-places, and completely refutes the charge of unhealthiness that has been brought against the town. Taking the last three years, not corrected for increase of population, we find the death-rate per 1000 for the year 1872 was 14·9; for 1873, 16·4; and for 1874, 18·1. The increase for 1874 is accounted for by the fact that in the June quarter of that year an unusually large number of troops were in camp in the registration district. During that quarter the rate rose to 20·01. The town, too, was unusually crowded during the season, and consequently the death-rate for the September quarter was kept up to its full average, the rate being 16·9.

These facts ought to satisfy the most sensitive mind that there is nothing in the sanitary condition of Folkestone to excite alarm. At the present time the town is free from any zymotic disease, with the exception of measles of a mild type, and there is no reason to fear that any such disease will originate there. We fully endorse the Registrar-General's statement, and the opinion hitherto expressed by the members of our profession, that Folkestone is to be

reckoned among the healthiest of our watering-places. It must, however, with its increasing population, take care to maintain the drainage in an efficient state, to secure a constant water-supply, to take precautions against the possible pollution of the water at its source or during its storage, and exercise the strictest sanitary supervision in respect of the removal of all nuisances.

OPENING OF THE SUMMER TERM OF THE ARMY MEDICAL SCHOOL.

THE thirtieth session of the Army Medical School was opened on the 1st inst. with an introductory discourse by Professor Aitken. The Professor gave a complete account of the school from its foundation to the present time, explaining that it was built on the lines originally laid down by John Bell and Dr. Robert Jackson. Dr. Aitken gave a sketch of the duties and responsibilities of medical officers in the various branches of the public service. He congratulated the candidates for commissions in the medical service of India on the larger field of usefulness open to them in that country, and dwelt on the fact that the advantages held out by the Government of India attracted to their service some of the ablest young men in the various medical schools of the kingdom. He also congratulated the medical officers of the Royal Navy on the late Warrant, which appears to have given satisfaction. Quoting the words of the Secretary for War when moving the Army Estimates, the Professor expressed a hope that ere long any causes of reasonable dissatisfaction at present existing in the minds of army medical officers would be removed. Dr. Aitken was at pains to show that, although the medical services of the army and navy do not offer opportunities of acquiring wealth, they still presented no inconsiderable attractions, among which he mentioned the absence of the cares, anxieties, and struggles of early professional life in civil practice, an honourable position, and the certainty of a provision for the decline of life. Dr. Aitken gave the candidates a hearty welcome to Netley, and then entered into a full description of the studies and duties on which they were about to enter. The lecturer, in the course of his address, paid a feeling and eloquent tribute to the memory of Sir Ranald Martin, to his long and distinguished career, to his many fine qualities of head and heart, and to the great services he had rendered to the State and to the medical officers of the public services.

At the conclusion of the lecture Surgeon-General Dr. Fraser, C.B., introduced Dr. Fayrer, physician to the Council of India, and an ex officio member of the Senate of the Army Medical School. Dr. Fayrer gave an interesting address to the candidates, more particularly to those belonging to the service of India, and gave some well-considered and kindly advice to all.

CAPTAIN BOYTON'S TRIP TO BOULOGNE.

WE have to thank Dr. Diver, of Southsea, for having furnished us with the following interesting particulars:—

On first seeing Captain Boyton previous to his taking the water, he seemed a little depressed. He stated that he had had a little diarrhœa; his tongue was dirty, and his pulse weak and labouring. After he had been between four and five hours in the water, I visited him; he complained of feeling very sleepy and drowsy. These symptoms had entirely passed away when I again spoke to him, and he was cheerful and happy. Living at an hotel, constantly being interviewed, champagne &c., no doubt contributed to the disturbance of the liver noticed before starting. During the whole period of his journey subsequently he complained of nothing at all, always stating that he was better than when he left Dover. He was nearly twenty-four hours without food. As for the temperature, he first of all gained 2° F., and, after being fifteen hours in the water without food, only lost from the time of starting nearly 7° F. He passed urine into his dress during the journey, but had no motion. The Société Humanité aux Suffrages de Bologne took charge of him on arrival, and put him to bed, giving him first a little soup (*bouillon*), and subsequently a little brandy &c., and set an old woman to watch him. She stated that during the night he was occasionally paddling. I had an interview with Dr. Livois, ex-mayor, an eminent medical practitioner, and president of the society. He stated that he showed no signs of exhaustion. Captain Boyton was out the next morning early, smoking his cigar, and was certainly very much better than when he left Dover; in fact, he seemed in rude health.

It occurred to me, during the voyage and subsequently, that the exertion he underwent was not so great as one would suppose. He is warm, lying at ease, and when he has his sail up he merely uses his wrists in paddling. He suffers by the sail pulling at his foot, and although the sea was very high, he was never submerged, but rode every wave like a duck. A spectator would think that he was being terribly knocked about whilst he is nimbly passing gracefully from wave to wave. There is no doubt that his power of endurance was severely taxed, and that had nautical men understood when to start him his success was perfectly easy. He could, in my opinion, have stayed many more hours in the water, more especially if he had taken nutriment. He is a man of great courage and determination, very amiable, and retiring.

Correspondence.

"Audi alteram partem."

ULTERIOR RESULTS OF LITHOTRITY.

To the Editor of THE LANCET.

SIR,—Mr. Thomas Smith's suggestion is a most excellent and reasonable one. I think it would not be impossible to obtain by inquiry the results in most of the eighty-nine cases of lithotrity included in my last series. The first fifty might be taken for example, all having been operated on more than a year ago, the periods varying therefore from one year to two years and a quarter. The last thirty-nine would, of course, be too recent, being within the last twelve months.

It must not be forgotten, in commencing this inquiry, that lithotrity has enabled us to afford great relief to some very old and infirm cases, which never would have been submitted to lithotomy, and in which it would have been worse than hopeless to resort to it.

At all events, I will do my best to investigate these cases, and shall be happy to send you the results of it.

I am, Sir, your obedient servant,

Wimpole-street, April 11th, 1875. HENRY THOMPSON.

DR. SANDERSON'S SPEECH ON THE GERM THEORY OF DISEASE.

To the Editor of THE LANCET.

SIR,—I hope that no one interested in the discussion concerning disease germs will allow himself to be prejudiced against my views by the remarks made by Dr. Sanderson until Dr. Sanderson has more fully explained the objection he characterises as "insurmountable," and an opportunity has been afforded me of replying.

Great authorities named by Dr. Sanderson, if pressed for an opinion concerning a germ theory, would, according to him, "shrug their shoulders," and in this way, I suppose, annihilate the theory in particular, and make an end of the persons who entertained it. The members of the Pathological Society, however, "ought not to shrug their shoulders" in the presence of a few of the "facts" advanced by Dr. Sanderson.

For my part, I object entirely to scientific questions being settled by shrugging of shoulders, but if I was a great scientific authority, and allowed myself to indulge in the exercise of that privilege, I should shrug my shoulders very

much at some of the "facts" mentioned by Dr. Sanderson, more at some of the conclusions he has deduced, and most of all at the coolness displayed by him and a few other scientific authorities, in ignoring, or in authoritatively disposing of the scientific work and conclusions of other Englishmen whose scientific position is not inferior to their own.

I am, Sir, your obedient servant,

London, April 11th, 1875. LIONEL S. BEALE.

HEALTH OF FOLKESTONE.

To the Editor of THE LANCET.

SIR,—In *The Times* report of the proceedings of the House of Commons on Thursday last, it appears Lord Robert Montagu stated that the death-rate of Folkestone in the month of August last amounted to 23 per 1000. The report of the Registrar-General being quarterly, I referred to the quarter ending Sept. 30th, 1874, which includes the month mentioned by his lordship, and found the number of deaths to have been 83, and the death-rate under 17 per 1000. In the preceding quarter, ending June 30th, the death-rate was one of the highest on record, notwithstanding the absence of any epidemic or prevalent disease. This was owing in a great measure to the large number of troops at Shorncliffe camp, and the sickly state of the 23rd Fusiliers just returned from the Ashantee war, for Sandgate and Shorncliffe camps are included in the Folkestone district of the Registrar-General. The number of deaths was 98, and this, in a population of 19,584, gives a death-rate of 20·016 per 1000, just enough to put Folkestone for that quarter in the category of towns in which the death-rate was over 20 and below 23. It may have been in this way that Lord Robert Montagu arrived at the figure 23. I need not point out that selecting one quarter from a series of years, and that the one in which the death-rate is amongst the highest recorded, is scarcely so safe a way to arrive at a correct conclusion as to the sanitary condition of a place as taking the average of a series of years would be. The Registrar-General takes this latter course, and in his last decennial report—from 1861 to 1870—of the health of the watering-places, Folkestone has the lowest death-rate, with one exception, that of Hove, which now is, I think, joined to Brighton, and reckoned with that town; the death-rate of Folkestone being, on an average of ten years, 16·4, that of Hove 16·2. The average death-rate of the last four years, from 1871 to 1874, is still under 17, for it amounts to 16·7.

I am, Sir, yours &c.,

WILLIAM BATEMAN,

April 8th, 1875. Medical Officer for the Borough of Folkestone.

P.S.—I have received the following note from the registrar:—

Cambridge House, Folkestone, April 10th, 1875.

DEAR SIR,—On turning to the register-book of deaths now in my possession, I find that from Oct. 1873 to the present time only two deaths have been registered as having occurred in that part of Folkestone town called the "Narrows": one, a young woman aged twenty-nine, from phthisis; the other, a child four months old, from marasmus.

I remain yours faithfully,

W. H. BIRCH,

Wm. Bateman, Esq., Medical Officer of Health for Folkestone. Registrar of Births, Deaths, and Marriages.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—A short time ago, Mr. Hardy, in reply to Dr. Lyon Playfair, announced in Parliament that not only were there no vacancies in the Army Medical Department to be filled up, but that there are now (including the candidates at Netley) seven officers in excess of the establishment, though THE LANCET, and indeed several other professional and military papers, have pointed out that, while the army estimates show no reduction in the number of medical officers, the department has been reduced by no fewer than twenty-six during the past twelve months; so that either Mr. Hardy was instructed wrongly when he gave his reply, or the army estimates are incorrect and more money is demanded from Parliament than is required.

That the medical department of the army is being steadily reduced (while the strength of the army has been increased) a reference to the following table will demonstrate:—

Strength of the Army Medical Department, taken from the Official Army Lists of 1868 *and* 1875.

	1868.	1875.	Increase.	Decrease.
Surgeons-General	8	9	1	—
Deputy Surgeons-General ...	36	33	—	3
Surgeons-Major of 20 years and upwards ...	96	191	95	—
Surgeons (now Surgeons-Major)	257	125	—	132
(Assistant) Surgeons of over 6 years' service...	360	389	29	—
(Assistant) Surgeons of under 6 years' service	311	83	—	228
Total of all ranks	1068	937	—	131

It will be seen from the above that during the past seven years the department has lost two of the inspectorial grade and 129 executive officers.

The following table is also appended, which shows the number of graduates of the University of Dublin who took their degrees and entered the army during the past ten years:—

Number of M.B. Degrees conferred in Trinity College, Dublin, during the past ten years.

1865—18,	of whom there are now in the Arm. Med. Dep.			5
1866—32	"	"	"	10
1867—34	"	"	"	12
1868—36	"	"	"	1
1869—41	"	"	"	2
1870—37	"	"	"	5
1871—35	"	"	"	3
1872—42	"	"	"	2
1873—37	"	"	"	2
1874—42	"	"	"	0

It will be seen from the above that, while during the years 1866 and 1867 twenty-two out of sixty-six, or one-third, entered the medical service of the army, during 1873 and 1874 only two out of seventy-nine did so.

It would be hard to find a better instance of what injustice and broken faith can accomplish in deterring the best men from entering what ought to be a most popular service.

I am, Sir, yours obediently,

April, 1875. ARMY SURGEON.

DISGRACEFUL CONDUCT AND ITS PENALTY.

To the Editor of THE LANCET.

SIR,—On Friday and Saturday, the 29th and 30th of January last, the usual examination in Arts was held at the Apothecaries' Hall.

In the first class of the pass list was placed * * * * *, and his certificate was shortly afterwards sent him in the ordinary course.

The Society of Apothecaries afterwards received information which led them to believe that * * * * * was not present himself on either of the days of the examination in question, and that he was, in fact, personated by someone else, who answered the examination papers for him.

I communicated the suspicions of the Society to * * * * * accordingly, and required him at once to deliver up the certificate which had been, as the Society believed, improperly obtained, so that the same might be cancelled.

The certificate was returned to me the next day.

The suspicions entertained by the Society having been thereby confirmed, it seems to be their imperative duty towards the members of the medical profession in general and the students in particular, that these facts should be most generally known and widely circulated.

I am, Sir, your obedient servant,

R. H. ROBERTSON,

Secretary to the Court of Examiners in Arts.

Apothecaries' Hall, London, E.C., April 13th, 1875.

*** We have not printed the name of the delinquent. Why have not legal proceedings been instituted?—ED. L.

Obituary.

JOHN DANIEL HILL, F.R.C.S.

IT is our painful duty this week to record the death of Mr. John Daniel Hill, of 17, Guildford-street, which took place on Wednesday morning last, about 2 o'clock, at his residence. Mr. Hill was surgeon to the Royal Free and Royal Orthopædic Hospitals, and also to the 1st Middlesex Artillery. He was the son of the Rev. J. H. Hill, rector of Cranoe, was educated at Guy's Hospital, and early showed a great love for surgery. Shortly after passing the College of Surgeons a vacancy occurred at the Royal Free Hospital, and Mr. Hill became house-surgeon. He continued in that position for more than seven years, when he was elected surgeon to the hospital on account of his long and valuable services. He continued his duties and saw his patients up to Wednesday, the 7th inst. On Thursday he complained of being unwell, and shortly afterwards erysipelas appeared. He was attended by Dr. Birkett and Mr. Marshall, in conjunction with Mr. Berry. He rapidly got worse, and sank in spite of all treatment.

Perhaps there was not in London a more energetic, hard-working hospital-surgeon than Mr. Hill. He combined, moreover, with these qualities a kindness and geniality, both towards his professional friends and patients, which endeared him to a very large circle of acquaintance. He contributed to several of the journals, his remarks being very valuable in a practical sense. Mr. Hill was in good health, and enjoyed a large practice up to the time of his falling ill. He leaves a widow and one son, an infant. Mr. Hill was in his thirty-eighth year.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the primary examination in Anatomy and Physiology at meetings of the Court of Examiners on the 8th, 9th, and 12th inst.:—

P. Kidd, W. Bruce Clark, T. Wilmot, E. C. Cripps, B. F. Cumming, J. B. L. Pauley, W. L. Heath, G. O. Mead, T. E. P. Prideaux, H. T. Steele, D. A. Hughes, J. T. Duncan, T. B. Carlyon, T. E. Hayward, and G. A. Meaden, St. Bartholomew's Hospital; G. A. Wright, G. Mackern, J. Reader, J. Poland, T. C. Nugent, J. Hammersley, E. C. Greene, J. Morgan, W. Lane, W. Dunstan, O. Bowen, and R. S. Wainwright, Guy's Hospital; R. F. Bell, W. H. Battle, G. H. D. Gimlette, H. U. Smith, F. H. Weekes, G. W. Robinson, C. E. Sheppard, and R. J. Mills, St. Thomas's Hospital; E. J. Thompson, B. B. Joll, J. E. Bullock, F. A. Jeans, J. D. Evans, H. Cane, C. E. Beevor, G. C. Henderson, H. Blaxland, F. L. Benham, J. W. Browne, T. E. F. MacGeagh, and J. T. Jones, University College; S. A. Clinton, A. R. Davis, J. Gabe, W. G. W. Proffitt, C. W. Sharples, and W. C. S. Bennett, Middlesex Hospital; H. L. Palmer, T. W. Richardson, W. A. Berridge, C. G. Dalton, C. A. S. Ling, A. Bennett, and R. E. Inman, London Hospital; D. G. Allen, G. Walker, E. Keen, H. Le Cronier, T. Goodchild, J. M. Grimmer, and H. H. Tidwell, St. George's Hospital; A. B. Prowse, J. B. Coombe, H. L. Webb, W. E. Luscombe, and C. J. R. Owen, St. Mary's Hospital; T. T. H. Smith, A. G. Blomfield, E. H. Howlett, T. De Caux, H. G. Taylor, W. R. White, C. W. Gay, and W. A. S. Walsh, King's College; G. Eliot, Westminster Hospital; D. Colquhoun and A. Grimwood, Charing-cross Hospital; S. E. Martin, Belfast; J. Symington, Edinburgh; C. C. Lapage, Cambridge and Leeds.

Of the 180 candidates examined during the last and present weeks 35 failed to satisfy the Court of Examiners, and were referred for three months' further Anatomical and Physiological study.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on April 8th:—

Bernays, Herbert Leopold, H.M. Dockyard, Chatham.
Briggs, Harry Bucham, Oncombe House, Horncastle.
Coles, John William, Camberwell New-road.
De Brent, Mortimer John, Marischal-road, Lee.
Donatoo, Thomas Bradford, Blackfriars-road.
Sandiford, Robert Trotman, New Ormond-street, Bedford-row.
Twining, Alfred Hughes, Walthamstow, Essex.

The following gentlemen passed the Primary Professional Examination on the same day:—

George Richard Cundell, St. Mary's Hospital; Frederick Howard Davis, James Mathias, and Charles Arthur Moore, St. Bartholomew's Hospital; Rowland Dunn Smith, London Hospital.

MR. JOSEPH WILLIAMS, public vaccinator to the Brentford Union, has received a grant of £7 3s. 4d. for successful vaccination in his district.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The next meeting will be held on Saturday, April 17th, at 7.30 P.M., when Dr. Alfred Carpenter, of Croydon, will read a paper on "The Practical Power of Soils, Air, and Vegetation, to Purify the Sewage of Watercloset Towns."

IN London 1759 deaths were registered last week, including 3 from small-pox, 19 from measles, 24 from scarlet fever, 10 from diphtheria, 95 from whooping-cough, 28 from different forms of fever, 24 from diarrhœa, and 496 referred to diseases of the respiratory organs—the whole making an annual rate of 27 per 1000. Recent mortality returns of foreign cities give somewhat high death-rates.

THE ADULTERATION ACT IN DUBLIN.—Dr. Cameron's report states that, during the year 1874, 385 articles of food were analysed, of which 220 were adulterated. The article chiefly adulterated was milk, to which had been added from 16 to 120 per cent. of its volume of water. Twenty specimens of pump water used in the city were analysed, and fourteen of them found to be tainted with sewage. Since 1870, 1843 sanitary analyses have been made, and 1,691,203 lb. of unsound food condemned.

BEQUESTS, &C., TO MEDICAL CHARITIES.—The Royal Albert-Edward Infirmary and Dispensary, Wigan, has become entitled to £10,000 (for the Endowment Fund) under the will of Mr. Thomas Wood, subject to a life interest. Mr. George Jeremy, of Lincoln's-inn and Axminster, bequeathed £1000 new Three per Cent. Bank Annuities each to the Devon and Exeter Hospital and the Taunton and Somerset Hospital, and £500 to the Hospital for Incurables at Putney.

THE Liverpool Training School and Home for Nurses appears, by the report read at a meeting of the friends of the institution held a few days since, to be in a condition of steady prosperity. A change in the superintendence was announced, Miss Merryweather having retired, and Miss Baker having succeeded her and become not only superintendent of the Home nurses, but also responsible for the supervision of the female nurses of the Royal Infirmary. The debt attaching to the Home has been reduced by legacies during the past year, but more pecuniary support was solicited by the chairman on behalf of the institution.

Medical Appointments.

BANNISTER, W., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for No. 1 District of the Havant Union, vice Stedman, resigned.

BASHAM, W. R., M.R.C.S.E., has been appointed House-Physician to the Westminster Hospital, vice Parkinson, resigned.

BLAKENEY, E. T., L.K.Q.C.P.I., L.M., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Ballinameen Dispensary District of the Boyle Union, Co. Roscommon, vice Dwyer, deceased.

CREAGH, J., L.R.C.S.I., L.R.C.P.Ed., L.M., has been appointed Medical Officer to the Fermoy Railway, vice Justice, deceased.

GARDEN, R. J., M.D., has been appointed a Medical Officer to the Aberdeen Dispensary, vice Brown, retired.

HASTINGS, G., M.R.C.S.E., has been appointed House-Physician to St. Bartholomew's Hospital, vice Andrew, resigned.

HILL, T., L.F.P. & S. Glas., L.M., has been appointed Medical Officer for the Cadishead and Irlam District of the Barton-upon-Irwell Union.

JAMES, W. D., M.R.C.S.E., has been appointed House-Surgeon to the Hull and Sculcoates Dispensary, vice Chapman, resigned.

JESSOP, J., L.R.C.P.Ed., L.S.A.L., L.F.P. & S. Glas., of Braintree, has been appointed Medical Officer of Health for the Halstead Urban Sanitary District: £25 for one year.

KERSHAW, J., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Flixton and Urmston District of the Barton-upon-Irwell Union, vice Whipp, resigned.

LAVIN, M. D., L.R.C.P.Ed., M.R.C.S.E., L.S.A., L.M., has been appointed Medical Officer and Public Vaccinator for the Bushey and Aldenham District of the Watford Union, vice Burton.

LLOYD, T. F., M.R.C.S.E., has been appointed Medical Officer for the Northern District of the Godstone Union, vice Diver, whose appointment has expired.

M'EVOY, Dr. J., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Nobber Dispensary District of the Kells Union, Co. Meath, vice O'Reilly, deceased.

MUNDIE, G., L.R.C.S.Ed., L.M., has been appointed a Surgeon to the Eastbourne Provident Dispensary, vice Moore, deceased.

ORTON, J., jun., M.R.C.S.E., has been reappointed Medical Officer of Health for the Foleshill Rural Sanitary District: Salary increased from £50 to £100 per annum.

OSBALDESTON, L. F., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for No. 4 District of the Hatfield Union, vice Thos. Osbaldeston, L.S.A.L., superannuated.

PAGE, E. S., L.F.P. & S. Glas., L.M., has been appointed Medical Officer and Public Vaccinator for the Solihull District of the Solihull Union, vice Lowe, resigned.

PALMER, T. D., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Officer and Public Vaccinator for the Boyle No. 1 Dispensary District of the Boyle Union, Co. Roscommon, vice Fry, resigned.

PAUL, E. W., M.R.C.S.E., L.K.Q.C.P.I., has been appointed Medical Officer and Public Vaccinator for the Calne Union, Wilts, vice Sandell, resigned.

SHANNON, T. E., M.D., F.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Longford District of the Ashbourne Union, Derbyshire, vice Copestake, resigned.

SHAPTER, L., B.A., M.B., has been appointed Consulting Physician to the Wonford House Hospital for the Insane, near Exeter.

SHEWEN, A., M.D., M.R.C.S.E., has been appointed a Physician to the Farringdon General Dispensary and Lying-in Charity, Bartlett's-buildings, vice Drysdale, resigned.

SMYTH, H., M.B., C.M., L.M.K.Q.C.P.I., has been appointed Medical Officer to the Town and County Gaol, Poole, the Dorset County Reformatory, and the Canford Dispensary, Admiralty Surgeon and Agent, and Medical Officer of Health for the Canford and Kinson Sub-district of the Poole Rural Sanitary District, vice Crabb, deceased.

STEPHENS, A. E. R., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon and Secretary to the Kidderminster Infirmary, vice Horner, resigned.

STRETTON, W. H., M.D., M.R.C.P., has been appointed a Physician to the Farringdon General Dispensary and Lying-in Charity, Bartlett's-buildings, vice Chapman, resigned.

THOMPSON, E. C., M.B., L.R.C.S.I., L.M., has been appointed Consulting and Visiting Physician to the Tyrone and Fermanagh Lunatic Asylum, and Medical Officer to the County Gaol, Omagh, vice H. Thompson, M.D., F.R.C.S.I., L.M., deceased.

WHITAKER, G. H., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Horwich District of the Bolton Union, and Medical Officer of Health for the Horwich Urban Sanitary District, vice Robertson, resigned.

WILLIAMS, MR. E. LL., has been appointed Dentist to the Denbighshire Infirmary.

Births, Marriages, and Deaths.

BIRTHS.

BRUNTON.—On the 9th inst., at Euston-road, the wife of John Brunton, M.D., of a son.

FERGUSON.—On the 8th inst., at Altidore-villa, Pittville, Cheltenham, the wife of Dr. G. B. Ferguson, of a son.

LITTLE.—On the 28th of Feb., at Singapore, the wife of R. Little, M.D., of twin sons.

NUNN.—On the 1st inst., at Maplestead, Bournemouth, the wife of Philip W. G. Nunn, L.R.C.P.L., of a son.

RADCLIFFE.—On the 7th inst., the wife of John Netten Radcliffe, M.R.C.S.E., of Regent's-park-terrace, of a son.

RAYNER.—On the 2nd inst., at Tiviot-dale, Stockport, the wife of E. Rayner, M.D., of a son.

SUMPTER.—On the 11th inst., at Cley-next-the-Sea, the wife of Walter Sumpter, M.D., of a son.

MARRIAGES.

DICKSON—BERTRAM.—On the 9th inst., at St. Saviour's, Jersey, John E. Dickson, M.B., C.M., of South-view, Jersey, to Alice Mary, grand-daughter of the late Francis Bertram, Esq., of Beaulieu, St. Heliers, Jersey.

STOCKER—DIMSDALE.—On the 7th inst., at Christ Church, Lancaster-gate, John Sherwood Stocker, M.D., to Charlotte Frances, daughter of J. C. Dimsdale, Esq.

WELCH—JUPP.—On the 7th inst., at Christ Church, South Hackney, Samuel Welch, M.R.C.S.E., of Hackney-road, to Julia Sophia Jupp.

DEATHS.

BEATH.—On the 13th inst., at Bath-crescent, Glasgow, Mary Whitelaw, wife of J. H. Beath, M.D., 35th Regiment.

BEST.—On the 25th ult., at Hyères, France, Alexander Vans Best, F.R.C.S.E., late Surgeon Bengal Army.

BROWN.—On the 5th inst., at Weston, Joel Brown, M.R.C.S.E., L.S.A., of Stourport, Worcestershire, aged 54.

DICKEN.—On the 12th inst., at Ashby-de-la-Zouch (after a short illness), Perry Dicken, M.D., in his 64th year. Much regretted.

HORN.—On the 12th inst., at Dalton-in-Furness, William Horn, L.F.P. & S. Glas., L.S.A.L., aged 37.

HUMPHREY.—On the 10th inst., Alex. M. Humphrey, M.B., of Balmoral-place, Aberdeen.

JENKINS.—On the 23rd of Feb., Wm. H. Jenkins, M.R.C.S.E., of Melbourne, Victoria, formerly of the 84th Regiment, aged 44.

KIRKMAN.—On the 18th ult., at Chicago, Dr. John Kirkman, formerly of Bolton, Lancashire, aged 64.

POWER.—On the 10th inst., Robt. Francis Power, M.D., of Montagu-street, Montagu-square.

PROVIS.—On the 6th inst., Wilton Provis, L.R.C.P.Ed., of Mere, Wilts, aged 28.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Sir David Brewster: Life of Sir Isaac Newton.
Mr. Gaskoin: On the Psoriasis or Lepra.
Dr. Shortt: Family Medicine for India.
Memoir of the Life of Admiral Sir E. Codrington.
Messrs. Turner and Price: Aids to Classical Study.
Year-Book of Pharmacy. 1874.
Poe's Works. Vols. III. & IV.
Rev. E. Fowle: Easy Greek Reading-Book.

Notes, Short Comments, and Answers to Correspondents.

THE TRANSFUSION OF BLOOD.

SCIENCE has its romantic side, and the idea that the warm living blood of one man can be transfused into the veins of a moribund brother, and restore him to health, has long exercised the same class of minds that still attempt to square the circle, or to prove that the earth is flat. An Italian physician finds the germ of it in Ovid:—

"Quid nunc dubitatis inertes?
Stringite, ait, gladios veteremque haurite cruorem
Ut repleam vacuas juvenili sanguine venas."

But we must leap from the first century to the close of the fifteenth before we find the idea put to the test. Pope Innocent VIII. had lapsed into habitual torpor, from which none of his physicians could rouse him till a Jewish practitioner suggested that transfusion of blood—hitherto practised only on the lower animals—might be made from the arm of a healthy youth into that of the comatose pontiff. First one young man was sacrificed, then a second, then a third, but fruitlessly. The Pope followed them within a few days to mother earth. The next epoch in the history of transfusion dates from Harvey's discovery, which inspired Dr. Francesco Folli, a Tuscan, to revive the question, and also a French Benedictine, who recommended the operation about the same time. At the close of the seventeenth century Dr. Richard Lower tried the experiment on the inferior animals (not his "poor relations!"), and succeeded, and was imitated with partial success by two other English physicians, Coxe and King—if, indeed, they were not all three anticipated by Denis, of Montpellier, who is said to have saved a man's life by transfusing blood from a sheep. The Pope, however, probably warned by his predecessor's fate, interdicted all repetition of the attempt; while the Faculty of Paris, jealous, it is stated, of the rival school of Montpellier, bribed the wife of a man on whom a similar experiment had been tried to poison him, so that he might appear to have died of the operation! The Pope's informal interdict now took the absolute shape of a bull, prohibiting transfusion, and Mercklin wrote a history of its decline and fall. It continued in discredit till 1819, when Blundell revived it, and since then it has gradually reasserted itself till at this moment it forms the subject of numerous experiments in Italian laboratories. Dr. Enrico Morselli, of Modena, announces a monograph upon it, and, from that physician's deservedly high reputation, we may expect something conclusive on its claims to scientific notice. Meanwhile it seems absurd to imagine that new blood-globules can be generated in man by the importation of those of an inferior animal, or even of another human being. Red corpuscles do not produce their like, but die, so to speak, without issue. And yet it has been gravely proposed to treat mania and other deep-seated disorders of the nerve-centres by transfusion! The idea is about as Quixotic as that of counteracting the cattle plague by tying cloths saturated with carbolic acid to the horns of healthy cows before driven to pasture! Rational medicine proceeds differently. It seeks in the intimate recesses of the protoplasm the beginnings of disease, and thither it points its instruments and directs its drugs.

Dr. Spencer Cobbold's letter shall be kept in mind.

CONTAGIOUSNESS OF TYPHOID FEVER.

To the Editor of THE LANCET.

SIR,—In Sir William Jenner's address before the Clinical Society, he says "that to his mind, from the known facts as to the contagiousness of typhoid fever, it should be still held *sub judice*, and can only be solved by the consideration of isolated cases."

In my practice two years ago, cases occurred which will, I think, conclusively prove the contagion.

A child, seven years old, came home from a long visit on the American side (the St. Lawrence is two miles wide here), where her aunt was suffering from typhoid. This child was the subject of typhoid fever on her arrival. In ten days her brother was infected, and in eighteen days more the mother suffered from typhoid fever, also the servant girl. In the lower half of the house was another family. Here a girl of eighteen was attacked. She was in the habit of assisting in the nursing of those above. In another family this winter, the head of the house had been working six miles away, and had not been home for a long time till he arrived suffering from typhoid fever. The mother and seven children all took it from him. Their house was a quarter of a mile from the nearest residence; it was new, hardly finished, and had a well on the premises. Again, in a house, a boarder, a young man of eighteen, was attacked, and it spread in the house to two daughters, a son, and, lastly, another boarder. One child escaped.

I think we may fairly infer in the cases mentioned that the evidence of contagion is conclusive.

Until in private practice I was inclined to doubt contagion in typhoid fever; but of late years I have considered it a certainty.

I am, Sir, yours &c.,
G. E. GASCOIGNE, M.D., M.R.C.S. Eng.,
Late Royal Artillery.

Brockville, Ontario, March 18th, 1875.

PROFESSIONAL ETIQUETTE.

WE have received a letter from Dr. Hassall, in answer to one we published last week from Dr. George Johnson, the insertion of which we are compelled to postpone until our next issue.

A Country Surgeon.—The fellowship admission fee of the Zoological Society is £5; yearly contribution, £3; composition fee, inclusive, £35. The annual meeting is, we believe, held on April 29th.

THE STRUCTURE OF VARICOSE ANEURISM.

OF what does the sac of a varicose aneurism consist? Of the connective tissue into which the effusion of blood occurs, it has been hitherto believed. Hain, however, by an examination of some recent cases, was led to the conclusion that it was formed by fibrine—an opinion which has been embraced by Roser. In those cases no trace of newly-formed connective tissue could be found in the sac, and the finger could with ease be passed around it, which would hardly have been possible had it been formed by inflammation of the tissues adjacent to the injured vessels. Czerny, of Freiburg, has investigated (Virchow's *Archiv*) the structure of the sac of a varicose aneurism between the femoral artery and vein of four months' duration, and found that it consisted of a dense connective-tissue membrane, united by loose tissue to the surrounding muscles and fasciæ. The inner surface at places was smooth, at others presented warty granulations, and within the cavity was laminated fibrine. Microscopically, it consisted of parallel layers of connective tissue, containing vessels and cells like leucocytes, some pigmented, others without pigment, and more numerous towards the inner surface, the outgrowths on which consisted of simple granulation tissue. Injection of Berlin blue revealed an extensive system of fissure-like canals in some places, distinctly communicating with four bloodvessels. The canals, however, contained only a few white blood-cells, whence he concludes that the direction of the current was from them to the vessels, and he compares them to the canals discovered in the dura mater by Böhme, and in granulation tissue by Thiersch, and he believes that they are to be regarded as part of the lymphatic system. He regards the granulations on the inner surface as increasing at the expense of the fibrine in contact with them, and saw the leucocytes here crammed with the remains of red corpuscles which they had taken up. The fibrine he believes to be absorbed, or to remain in part as intercellular material. Comparing this structure with Hain's observations, it is natural to conclude that the fibrinous sac found in the recent cases is, as it were, the matrix in which vessels and connective-tissue fibres form, resulting in the structure usually described.

Mr. D. S. Kemp, Pharmaceutical Chemist, of Bombay, encloses us a very useful little "Companion to the Medicine Chest," compiled by him; and, alluding to an annotation on "Medicine Chests and Medical Guides" that appeared in THE LANCET of Feb. 6th, remarks that a book of the kind indicated exists to some extent in Dr. Y. Hunter's "Medical Hints for the Districts."

PUBLIC MEDICAL SERVICE IN DOMINICA.

To the Editor of THE LANCET.

SIR,—A Medical Act passed the Legislature of this island in February, 1874. By the Act, the country is divided into districts, and to each district a medical officer is appointed, to whom a salary of £200 per annum is granted; in one instance £250 from special causes. These offices, so far as I can learn, are still vacant. My object, therefore, in writing to THE LANCET is to advise strongly medical men who have applied for them, or to whom they may have been offered, to study and to read carefully the Medical Act before they close with the offers made; to read, if possible, a discussion that took place on the subject in the public prints, and to obtain information direct from the island, in order that they may ascertain the nature and extent of the duties they will bind themselves to perform.

Appointments of £200 per annum, with private practice, may at the first glance seem very tempting to young members of the profession; but it will be found, on examining the Act, that the multifarious duties required from the officer are more than equivalent to the stipend granted. Nevertheless, the Government have drawn up a scale of fees, the absurdly low rate of which they make compulsory upon the medical officers, and which they attempt to justify by saying that the £200 is a *subsidy*—that is, part payment for attendance on all patients coming under the provisions of the Act, forgetting that they have already exacted in other services more than an equivalent for the stipend allowed. I enclose the tariff of fees copied from the *Official Gazette* of the island, and for the sums therein set forth the officer is *bound* to attend by night or by day when his services are demanded. Moreover, nearly the whole population of his district will consist of labourers and handicraftsmen, the classes entitled by law to his services. Private practice irrespective of this may be considered almost *nil* in the country districts. If one officer should be stationed at Roseau, the chief town, its population being about 5000, he will find three medical men already established there; thus an estimate may be formed of the private practice likely to fall to his share. One of these medical gentlemen applied for a district appointment while the Bill was before the Legislative Assembly; but, after perusing the Act when it had finally passed, he was compelled to withdraw his application, being convinced of the impossibility of conscientiously performing all the duties required by the Act, the remuneration besides being inadequate to the services exacted.

The population of our country districts suffer greatly for want of medical assistance; but if the authorities wish medical men to settle in the island, they should offer such terms as would rather invite than repel them from us. The duties of district medical officers in Antigua and in St. Kitt's are, indeed, light as compared with similar duties required of medical officers in Dominica. In the former islands an officer may drive round his district in a few hours. In this mountainous and inaccessible country it is very different, the people being scattered over a wide extent of country. The roads are steep, rugged, and often dangerous; and the officers will have to make long and fatiguing journeys on horseback at the scale of remuneration given below.

It would only be an act of common justice that the applicants should be made acquainted by the Government with the terms and conditions of these engagements, and all particulars relating thereto. Should the appointments then be accepted, the Government so far will be held blameless. Far otherwise will it be if medical men, from imperfect information, accept these offices, and discover when too late that they have been misled. When once they have arrived here, they may not find it so easy to retire if they wish. Pecuniary liabilities must almost of necessity be contracted at first; and unless the officer have means independent of his pay, he will be fixed to the island for an indefinite time. He must, besides, refund his passage-money out should he leave within three years. Moreover, these appointments *only last for five years*, and one year is fast passing away. From a very long experience of this island, I may be permitted to say that if the Government really wish to have the medical wants of the colony supplied in such manner as will be of positive advantage to the people, they will lose no time in altering and amending their Medical Act.

I remain, Sir, yours &c.,

Dominica, West Indies, 1875. SENEX.

*** We should sooner than this have published the letter of our well-informed correspondent. The following is the scale of charges referred to.

MEDICAL RELIEF.

Docket of Fees fixed by the Governor in Council to be paid to the District Medical Practitioners for Professional Services rendered to Labourers not entitled to their Gratuitous Services under Act No. 5 of 1874.

A visit within a mile of practitioner's residence, police station, or other place of visit, as set forth in Schedule B	£0	3	0
Ditto, by night, special summons	0	6	0
Ditto, beyond a mile extra, per mile, by day	0	1	6
Ditto, ditto, by night	0	3	0
Advice and medicine at practitioner's residence, police station, or other place of visit, as set forth in Schedule B	0	2	0
Midwifery, in town, within a mile of practitioner's house, police station, or other place of visit, as set forth in Schedule B... ...	0	10	0
Midwifery, for each case in the country	1	0	0
Ditto, instrumental, town or country (extra)	1	0	0
Surgery, extraction of teeth, and minor operations at the practitioner's residence, police station, or other place of visit, as set forth in Schedule B	0	2	0
Treatment of compound fracture of the thigh	1	10	0
Ditto of compound fractures or compound dislocations of the leg .	1	10	0
Amputation of the leg, arm, foot, or hand	1	10	0
Operation for strangulated hernia	1	10	0
Treatment of simple fractures, or simple dislocations of the thigh or leg	0	16	0
Minor amputations	0	10	0
Treatment of dislocations or fractures of the arm	0	7	6
Hydrocele (palliative operation)	0	4	0
Ditto, radical operation	0	7	6
Paracentesis abdominis	0	5	0
Dose of pills or powder	0	0	6
Draught	0	0	6
Mixtures and solutions, per ounce	0	0	6
Liniment or drops	0	1	0
Blister ditto	0*d.* to	1	0
Ointment	0	0	6
Lotion, pint	0	0	6

Approved and confirmed,

(Signed) HENRY T. IRVING, Governor.

Passed the Executive Council this 10th of June, 1874.

(Signed) WM. MODESTE.

Meteorologist, (Yarmouth.)—A distinction is to be drawn between the "climates of mountains" which correspond to the regions whose elevation does not exceed 2000 metres, and the "climates of altitude" to be met with in the most elevated places. It is the latter only which exercise a marked debilitating action by the diminution of the oxygen in the blood. This is confirmed by M. Bert's experiments on the physiological action of rarefied air, and Dr. Jourdanet has made interesting therapeutical applications of the same in cases of anæmia, which have defied other treatment. *Vide* the whole subject very clearly handled in the latter physician's recently published work, entitled "L'Influence de la Pression de l'Air sur la Vie des Hommes." Par M. le Docteur Jourdanet (2 vols.: Masson). The author spent many years in Mexico, where he studied the interesting hygienic problem, to the solution of which he has dedicated these volumes.

MEDICAL ETHICS.

To the Editor of THE LANCET.

SIR,—In reply to Mr. O'Connor's letter in your impression of last week, allow me to give the following proofs of the accuracy of my statement.

A sister of the patient came to my surgery, and, fortunately, as it happened, in the hearing of another, repeated the facts I gave in my previous letter. The same tale was repeated by her at their own house, in the presence of the mother and a third sister, two hours afterwards. On the matter being reported to the guardians, an explanation was asked for from Mr. O'Connor, and, on that being sent and considered, the following reply was ordered to be forwarded. After acknowledging the receipt of his letter, this follows:—"The guardians have reason to believe, from direct information, that the sister of the patient, when she came to you, told you that Dr. Wilson had recommended an operation."

I think the above bears out my statement that Mr. O'Connor knew that I had been in attendance on the patient, and yet operated without taking any steps to inform me that he had taken the case in charge.

I remain yours truly,

Chatteris, April 14th, 1875. J. MITCHELL WILSON, M.B.

INOCULATION IN IRELAND.

OUR Irish brethren will persist in being peculiar. We have Sir M. Hicks Beach's authority for believing the dangerous and illegal practice of inoculation has been to some extent revived in Galway and Mayo. Happily one case has been detected and prosecuted to conviction. Seeing that this practice is so dangerous to the public, it is not too much to hope that the offenders will be more sharply looked after by the authorities. Ireland has a great reputation for appreciating vaccination, and doing it well, and she should regard those who practise inoculation as enemies of the national reputation as well as of the national health.

THE MERRYWEATHER FUND.

SUBSCRIPTIONS received by Dr. Atwood, 129, Ladbroke-grove, W.; and D Hare, 57, Brook-street, W.

THE STOLEN EXAMINATION-PAPER CASE.

WE recently alluded to the prosecution of a young man, named Samuel Cowap, for inciting George Austin to steal an examination-paper of the Pharmaceutical Society from Messrs. Stephenson and Richardson, the printers. The case was remanded last week, and has since been brought up before Mr. Flowers at Bow-street. It having appeared, on further inquiry, that the prisoner was not acting under the advice of some third person—some "coach" who made it his profession to pass people through such examinations,—and that he had enjoyed an excellent character before yielding to this temptation of making himself secure of passing his examination, Mr. Straight, who acted for the Pharmaceutical Society, advised his clients not to press the case, to which Mr. Flowers agreed. We are glad, under the circumstances, that this course was adopted. The publicity given to the matter will, we have no doubt, be sufficient to warn others that these attempts cannot be made with impunity.

Mr. Brown Sim.—At an early date.

CROUP AND DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—It is no easy matter to shake off "formed impressions," and it will, I have no doubt, be a question of time and educational training before croup, "membranous croup" that is, comes to be looked upon and classified as a local form of diphtheria. This has been my view, however, independently formed, for a considerable period, and the only point of difficulty in its general recognition seems to be in the power of determining, What is diphtheria?

Because membranous or diphtheritic croup is an old enemy frequently encountered, and diphtheria—generally considered and described—a comparatively new one, is no argument against the latter being an old enemy in a new guise, or that the two have not a common origin and course of action. Are membranous or diphtheritic laryngitis, *alias* "croup," diphtheritic tonsillitis, *et hoc genus omne*, essentially different forms of disease, or different forms of the same disease? Again, is croup, *per se*, an inflammatory disease? Has it no period of incubation? And is it not distinctly and indubitably contagious? I should be sorry to allow my patients to suppose that it is not, as I fear some who have written in reference to this subject are disposed to do. Are these varied diphtheritic conditions—membranous exudation if you like—to be separated from diphtheria because they lack the marked train of symptoms that we have seen in a virulent epidemic of diphtheria, where he who runs may read plainly enough? If so, what shall we say of scarlatina? Take a virulent and fatal epidemic, where the fell poison does its work in a large number of cases without a rash being developed, where the throat symptoms may be everything or nothing, and where the sequelæ may be as varied, if not as severe, as in diphtheria. Compare this with the mild, occasional, and sporadic cases of scarlatina, and the contrast is to me quite as great in the one as the other.

In my country practice experience of the last eight years I could count on my fingers the cases of moderately severe diphtheria, approaching in point of severity, though not in fatality, those in the epidemic of (about) 1858 in the north of England, and followed by a somewhat similar, though less marked, course of nervous sequelæ. The large majority, however, have lacked the violent constitutional symptoms as well as the after-effects. Two instances of the severer form occurred in the practice of my partner, Mr. Jones, of Epsom. A child, the daughter of an hotel-keeper, was attacked with diphtheritic sore-throat, rapidly extending and invading the larynx. Tracheotomy was performed; but the child died, suddenly, thirty-six hours after, from thrombus. The mother took the disease severely, and died twelve months after, having been a great sufferer from nervous sequelæ, dysphagia, cardiac weakness, &c. During the past year I can call to mind three cases of diphtheritic laryngitis (primary), or ordinary membranous croup. One, tracheotomised, lived six days; and three or four when the disease involved the larynx secondarily. In none of these cases was the constitutional type of symptoms of the same marked order as in the former. From one of the above fatal cases of diphtheritic tonsillitis spreading to the larynx, perhaps the worst, a girl of eleven, contracted a well-marked diphtheritic (membranous) throat; the membrane, which was thick and dense, covered the arches of the palate, the back part and sides of the uvula, running up the back of the soft palate, as well as covering the tonsils. In this case, though the membranous covering remained a fortnight or more, there were no constitutional symptoms of the least gravity; the child was not confined to its bed, neither were there any consecutive nervous troubles. The membranous state was as perfect as in the most typical form of diphtheria. Fortunately it did not extend downwards.

Was the case last alluded to a case of true diphtheria? In my belief, certainly. It was not a case originating from "cold," or "hot steam," or a "bean," but a genuinely poisoned condition, where the cause, the date of inception, the period of incubation, the local manifestation, could be all traced; but the system failed to respond, except in the faintest way, to the further influence of the poison. The method of treatment of all these cases is strongly confirmatory of their identity of origin.

The view propounded by Sir William Jenner and Dr. George Johnson has the great merit of linking the series of membranous exudative formations into a connected whole, with diphtheria as the generic head.

Yours obediently,

Ewell, Surrey, April, 1875. GEO. B. BARNES, M.D., &c.

THE CHANNEL TUNNEL.

Mr. W. Austin, C.E., writes to us with reference to this subject, on which an article appeared in THE LANCET of the 3rd inst. Mr. Austin proposes "to use compressed ball-peat fuel," which will not emit smoke, sulphur, or dirt," and considers that with a central shaft ventilator or tunnel lighthouse, the ventilation will be perfect with a double tunnel, with transverse arches at every mile. This tunnel, including approaches, would be twenty-five miles in length, and is a rival scheme to that of Sir John Hawkshaw, who proposes a single arch tunnel of thirty-three miles. Engineers as well as doctors differ now and then.

Mr. Jukes.—We have no data or information on the subject. It is, however, worthy of a trial.

A BOILING LAKE.

AN interesting discovery has been made by Drs. Freeland and Nicholls, Captain Gardiner, and Mr. Watt in the island of Dominica. The informant is Mr. Joseph Sturge, of Birmingham, who, in a communication to *The Times*, states that the explorers, in the course of their wanderings on the steep and forest-clad mountain at the rear of the town of Roseau, came upon a boiling lake some 2000 feet above the sea-level, and two miles in circumference. When the wind cleared away for an instant the clouds of sulphurous steam which overspread the surface of the lake, a mound of water was seen ten feet higher than the general level, and caused by violent ebullition. The margin of the lake consisted of beds of sulphur, and its overflowing found exit by a waterfall of great height.

OBSTETRIC PRACTICE IN THE NORTH.

To the Editor of THE LANCET.

SIR,—Many readers of your popular journal will, I have no doubt, be surprised, and I may say amused perhaps, by the way in which most surgeons in the northern counties attend their patients in labour, and I am sure many will agree with me when I say that the *modus operandi* is not only attended with danger to the mother and child, but rather disgusting to any who, from the country's custom, are compelled to deliver in such a way.

Two ordinary chairs are tied together by the two inner front legs; the chairs are then separated from behind, leaving an aperture on which the patient seats herself; two of her female friends or attendants then sit on the chairs on either side of her, she placing her arms on the shoulders of the two supporting; and the surgeon plants himself on a low stool behind, to assist, support the perineum, &c. &c. Now, I have known instances where surgeons have been told "they were not required," because they would not attend in such a position; and only the other night, when I was attending a case of the sort, a midwife told me that Dr. A. (who is a thoroughly well qualified man) "didna ken out o' his profession many women till she showed him," simply because he had never seen or heard of such a process in obstetrics. I, for my part, consider such a way dangerous. The woman "gets on the chairs" (the phrase used here) often long before the surgeon arrives; the child may descend with such force as not only to cause death, but, by pulling suddenly and forcibly an adherent placenta, cause serious accidents to the mother. To such a similar case I was summoned one night last week, having had to ride a distance of five miles from my house, when I found the patient "on the chairs" (attended by a midwife), exhausted, the child born, and an adherent placenta to which no funis was attached, it having been forcibly torn on account of the quickness and suddenness in which the child was expelled.

I am, Sir, yours &c.,

Alston, March 22nd, 1875. L.R.C.P.

SHIP-SURGEONS.

To the Editor of THE LANCET.

SIR,—My attention having been drawn to your articles relating to ship-surgeons, and having had some experience in that capacity, I beg to offer one or two points for consideration.

In my first voyage to Australia I acted as surgeon (being then registered) for no further remuneration than a free saloon passage, having even to pay for my own cabin fittings, returning home after the lapse of some time on the same conditions. Since then I have been to New York and New Orleans; but the voyages to and from Sydney were the only ones for which I received no pay. How is it that it is only on these long-voyage sailing ships that unqualified men are allowed to act as surgeons? for such, I believe, is the case. How is it that persons acting as medical officers of these ships have not to obtain the sanction of the Government Board before starting, as is the case with surgeons of emigrant ships from Liverpool? How is it the regulations of the Act are enforced in one instance, and evaded in another? What class of medical men can be expected to go these voyages, which are not without hazard, and give their services, when the owners or, as is more usually the case, the charterers offer no further remuneration than a free saloon passage? From my own experience, I can affirm that very few registered medical men, except those wishing to travel, from ill-health or other reasons, will accept appointments for no further remuneration than a saloon passage.

Feeling interested in the subject of ship-surgeons, I trust you will excuse my thus intruding on your space, and believe me, Sir,

Your obedient servant,

April 6th, 1875. ONE WHO HAS BEEN A SHIP-SURGEON.

THE SLAUGHTERING OF ANIMALS.

To the Editor of THE LANCET.

SIR,—I would feel obliged if you can afford me space for a few remarks on the subject of slaughtering animals for food. The present system is notoriously defective. The miserable animals frequently die under great torture. Now, it is not difficult to destroy life instantaneously. The most speedy and painless method would be by division of the medulla, and this can be effected with one-quarter the effort which penetration through the skull necessitates. It is by no means infrequent that as many as six and eight blows are given before life is destroyed; whereas the division of the medulla spinalis insures instantaneous death, and almost without pain. We are all familiar with the manner in which the bulls in Spain are destroyed. This gives the clue to the correct method. I know I may leave the matter here, as many persons are anxious to lessen as much as possible the tortures needlessly inflicted.

I am, Sir, yours truly,

Burton-crescent, April 14th, 1875. H. P. MAYER.

MORTALITY RETURNS.

To the Editor of THE LANCET.

SIR,—Although the vestry of St. Mary, Newington, objected in the first instance to what they considered an arbitrary proceeding in the sudden withdrawal of the Weekly Mortality Returns, for so many years sent to the metropolitan officers of health by the Registrar-General, they have, nevertheless, been most anxious to have a fair settlement of the question; and more than two months ago agreed, on my suggestion, to pay for the Returns, the same as the country registrars received by law. Difficulties, however, delayed this; but, after several letters had passed between our vestry and the Local Government Board, the matter was settled, and I am happy to say the first Returns under the new arrangement have been received, and on *Monday morning* instead of *Wednesday evening*.

Your obedient servant,

WM. TIFFIN ILIFF, M.D.,

Vestry Hall, Walworth, April 13th, 1875. Medical Officer of Health.

SEA-WATER FOR ROADWAYS.

To the Editor of THE LANCET.

SIR,—In a leading article on the Metropolis Water Bill in your last week's issue, you say, "It is possible that sea-water would prove a more effectual moistener of our roadways than fresh water." The experiment of using sea-water in place of fresh for watering the streets has been lately tried in Birkenhead, and the results are not satisfactory. A large portion of the salts in the water is left on the road-surface after each watering, making the stone-sets exceedingly slippery, and causing much suffering and occasional damage to horses. Sometimes, indeed, the salt on the roads has made them dangerous for foot-passengers.—Your obedient servant,

FRANCIS VACHER,
April 14th, 1875. Officer of Health, Birkenhead.

COMMUNICATIONS not noticed in the current number will receive attention in our issue of the ensuing week.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir H. Thompson, London; Dr. L. Beale, London; Sir J. R. Cormack, Paris; Dr. Weber, London; Dr. Wilson Fox, London; Dr. Vinen, London; Mr. Gamgee, Birmingham; Dr. Hare, London; Lord Robert Montagu; Mr. Archer, Weston-super-Mare; Dr. Bolleau, Baltimore; Dr. Holmes, Allahabad; Rev. Mr. Gathercole; Mr. F. R. Hall, Cambridge; Dr. Dale, Scarborough; Dr. Whitmore, London; Mr. Hamilton; Dr. Goldie, Leeds; Dr. Nicol, Llandudno; Mr. Attenburrow, Jersey; Dr. Johnston, Chicago; Mr. Ward, London; Mr. M'Cormac, Berlin; Mr. Macrae, Liverpool; Mr. Herring, New York; Mr. Easby, Darlington; Dr. Wallich, Herne Bay; Mr. Jukes, Halifax; Dr. Houghton, London; Dr. Shapter, Exeter; Mr. Mayer, London; Mr. Rogers, London; Dr. Spencer Cobbold, London; Dr. Rogers, Dublin; Inspector-General Goodall; Dr. Coupland, London; Mr. Wilson, Chatteris; Mr. Lediard, London; Dr. Vacher, Birkenhead; Dr. Gwynne, Devonport; Dr. Edis, Gloucester; Mr. Brend, Bushey; Mr. Couchman, Henley-in-Arden; Dr. Brett, Herts; Mr. Smith, Weymouth; Mr. Keetley, Birmingham; Surgeon-Major Curran; Mr. Poole, London; Mr. English, Folkestone; Mr. Reilly, London; Dr. Iliff, London; Dr. Allshorn, London; Mr. Fairbank, Wigan; Mr. Robinson, Dublin; Mr. Ceeley; Dr. Stedman, Guildford; Mr. Brown Sim; Dr. Hassall, Ventnor; Fleet-Surgeon Elliott; Dr. Dudfield, London; Mr. Blakeney, Croghan; Dr. Williams, Sheffield; Messrs. Clark and Co., London; Mr. Beancroft, Droitwich; Mr. Owen, London; Dr. Malins, Edwardesabad; Mr. Perry, Wisbeach; Mr. Knap, Birmingham; Mr. Masefield, Ledbury; Mr. Lightoller, Chorley; Mr. Provis, Bath; Mr. Fotheringham, Queensland; Mr. Winget, Torquay; Mr. Evans, Cardiff; Mr. Bateman, Folkestone; Mr. Bothwell, Worcester; Dr. Waters, Liverpool; Mr. Blatherwick, Titchfield; Messrs. Maclachlan and Co., Edinburgh; Dr. Macadam, Edinburgh; Mr. Davidson, Carlisle; Mr. Leake, London; Messrs. Robertson and Scott, Edinburgh; Messrs. Fox and Co., Manchester; Dr. Haviland, Northampton; Rev. A. J. D'Orsey, London; Mr. Larmuth, Manchester; Mr. Wood, Cranbrook; Mr. Dransfield, Penistone; Messrs. Standfield and Crosse, Exeter; Mr. Duncan, London; Mr. Ingpen, London; Dr. Wyld, London; Mr. Hartley, Cheltenham; Dr. Brailey, London; Mrs. Plumer, Penrith; Mr. Theobald, Leicester; Messrs. Richardson and Co., Leicester; Dr. Hitch, Hastings; Mr. Smith, Manchester; Mr. Hunter, Aberdeen; Dr. Macleod, Galston; Dr. Shewen, London; Mr. Hastings, London; Dr. Diver, Southsea; Mr. Robins, London; Messrs. Lynes and Son, London; Mr. Moore, Skelmersdale; Mr. Sergeant, London; Dr. Dreschfeld, Manchester; Mr. R. G. Alexander; The Director-General of the Medical Department of the Navy; Q. E. D.; Maori; Delta; Inquirer, London; Information; &c. &c.

LETTERS, each *with enclosure*, are also acknowledged from—Mr. Williams, Eythorne; Mr. Ryder, Dalston; Mr. Whitley, Glasgow; Mr. Phillips, Aberaman; Dr. Oliver, Glasgow; Dr. Akerman, London; Mr. Miller, Ottery St. Mary; Miss Worthington, Norwood; Mr. Davis, Upper Lyme; Mr. Horn, Dalton-in-Furness; Mr. Moore, Stourport; Mr. Brett, Bridlington; Mr. Reilly, New Cross; Mr. Jardine, Capel; Dr. Gramshaw, Stillington; Mr. Bond, West Bromwich; Dr. Dobie, Chester; Mr. Raven, Litcham; Messrs. Leader and Sons, Sheffield; Mr. Croxton, London; Mr. Nunn, Maplestead; Mr. Dashtry, Peshawur; Mr. Woodall, Scarborough; Dr. Mackintosh, Chesterfield; Mr. Crawford, Walker-on-Tyne; Dr. M'Kechnie, Darlington; Mr. Walker, Corwen; Mr. Williams, Oxford; Dr. Hulme, Wigston; Dr. Stephens, Brighton; Dr. Dickson, London; Mr. Brodribb, Caterham; Mr. Blacket, Newbury; Mr. Cawthra, Bradford; Mr. Robjohns, London; Mr. Scott, Eastbourne; Mr. Chapman, Jamaica; Mr. Trubshaw, Pendre; Mr. Law, Padiham; Mr. Mackenzie, Barrow-in-Furness; Mr. Kemm, Corsham; Mr. Butters, Edinburgh; Messrs. Porteous and Co., Glasgow; Mr. Phelps, Bristol; Mr. Marsden, Eastbourne; Mr. Holland, Brixton; Mr. Goddard, Leicester; Mr. Shorto, Southampton; Mr. Stilliard, Birmingham; Messrs. Pinchard and Sons, Taunton; Dr. Dixie, Liverpool; Mr. Taylor, Sheffield; Mr. Vernon, London; Mr. Andereoletto, London; Mr. Hartill, Willenhall; Mr. Coates, Salisbury; Mr. Shackles, Hull; Dr. Rigby, Chorley; Mr. M'Caskie, Anston; Mr. Da Silva, Edinburgh; Mr. Mayne, Honiton; Mr. Hyslop, Church Stretton; Surgeon-Major Beath, Glasgow; Dr. Ayres, Greenwich; E. R. S., Cleethorpe; M. C., Aberdare; Surgeon, London; A. B. Z., Pulborough; Beta, Stoke Newington.

Western Morning News, Welshman, Newcastle Daily Chronicle, Sunderland Daily Echo, Local Government Chronicle, Belfast Evening Telegraph, Cork Constitution, Huddersfield Daily Chronicle, Folkestone Free Press, Surrey Advertiser, Manchester Guardian, Newcastle Daily Chronicle, Isle of Man Times, Sheffield Daily Telegraph, Tyrone Constitution, Wigan Observer, Folkestone Express, and *Derbyshire Courier* have been received.

METEOROLOGICAL READINGS

(*Taken by Steward's Instruments*).

THE LANCET OFFICE, APRIL 15TH, 1875.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rainfall.	Remarks at 9 A.M.
April 9	29·88	N.E.	40	41	...	45	40	0·77	Overcast
„ 10	30·14	N.E.	42	43	...	48	40	0·09	Raining
„ 11	30·08	E.	43	45	...	51	43	0·10	Overcast
„ 12	30·20	N.E.	40	41	...	47	39	...	Overcast
„ 13	30·24	E.	38	42	...	51	39	...	Cloudy
„ 14	30·33	S.E.	37	38	...	52	36	...	Foggy
„ 15	30·38	E.	38	40	...	...	37	...	Foggy

Medical Diary for the ensuing Week.

Monday, April 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ST. PETER'S HOSPITAL. — 3½ P.M. Expected Operations: Lithotrity and Internal Urethrotomy.
MEDICAL SOCIETY OF LONDON. — 8 P.M. Dr. Pedler, "On the Pneumatograph." — Dr. Richardson: "A further Report on the Treatment *in extremis* of Cases of Fibrinous Separation within the Heart and Great Vessels."

Tuesday, April 20.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION. — 3 P.M. Prof. Duncan, "On the Grander Phenomena of Physical Geography."
PATHOLOGICAL SOCIETY OF LONDON. — 8½ P.M. Adjourned Debate on the "Germ Theory of Disease," being a discussion of the Relation of Bacteria and Allied Organisms to Virulent Inflammations and Specific Contagious Fevers.

Wednesday, April 21.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, April 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Prof. Seeley, "On the Fossil Forms of Flying Animals."

Friday, April 23.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION. — 8 P.M. Evening Meeting. — 9 P.M. Prof. Ramsay, "On the Pre-Miocene Alps, and their subsequent Waste and Degradation."
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Dr. Daniel Moore, "On Bucephalus Haimeanus, and an allied unnamed form."
CLINICAL SOCIETY OF LONDON. — 8½ P.M. Dr. Gustavus Fritsche, of Poland, "On a Case of Fibroma, weighing 35 lb., successfully removed" (communicated by Dr. Tilbury Fox). — Mr. T. Smith, "On Disordered Nerve Function in an Infant."—Mr. R. W. Parkes, "On a Case of Scald of the Glottis, with Deposit of False Membranes in the Pharynx, Larynx, and Bronchi." — Dr. T. Henry Green, "On Acute Fatty Degeneration of the Heart."

Saturday, April 24.

ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. G. Smith, "On the History of Assyria."

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